
REHABILITATION OF MT. PISGAH UTILITIES (MP 408)

**Blue Ridge Parkway
Haywood & Transylvania Counties, North Carolina**

Environmental Assessment

October 2003



**National Park Service
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ENVIRONMENTAL ASSESSMENT
for
REHABILITATION OF MT. PISGAH UTILITIES (MP 408)
BLUE RIDGE PARKWAY, NORTH CAROLINA

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1.0 PURPOSE AND NEED FOR THE ACTION

1.1 Purpose of the Action

The purpose of this document is to evaluate the direct, secondary and cumulative environmental consequences of rehabilitating the utilities at the Mt. Pisgah Developed Area in Haywood and Transylvania Counties, North Carolina, on Blue Ridge Parkway (BLRI), National Park Service (NPS), United States Department of the Interior lands.

The proposed action would replace the severely leaking water distribution and sewer collection systems, as well as provide a crossing of a wetland that would mitigate existing impacts to this sensitive area.

National Park Service guidelines for compliance with the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) require an analysis of potential impacts of the proposed activities on historic resources and the human environment.

1.2 Need for the Action

This action is needed because the existing water distribution and sewage collection systems have deteriorated and are severely leaking. Problems associated with the condition of the systems include nonconformance with the State of North Carolina drinking water regulations, leakage of large volumes of treated drinking water, sewage overflows, and potential discharge of sewage into a sensitive wetland and nearby streams. In addition, if the proposed action is undertaken, there is an opportunity to remove a trail that crosses a sensitive wetland and replace it with a bridge elevated above the wetland, greatly reducing visitor impacts to the area. The proposed action would also result in the improved appearance of the campground.

1.3 History and Background of Need

The Mt. Pisgah Developed Area encompasses approximately 622 acres and consists of a 52-room inn, restaurant, camp store, gas station, and gift shop, which are open from April to November. It also contains 137 campsites (open from May to October), a picnic area, hiking trails, dormitories for 30 employees, and a sewage treatment plant. The site serves about 250,000 visitors annually.

This action is needed because both the water distribution system and the sewage collection system have deteriorated and have developed serious leaks. These facilities are over 30 years old. The National Park Service estimates that approximately 300,000 gallons of treated drinking water is lost to leakage each month. Although the water and sewer line separation met existing state requirements at the time of construction, it does not meet the current minimum 10 feet separation requirement. However, to ensure visitor safety, the water is chlorinated. Also, water samples are collected at several points in the system and laboratory tested at least twice monthly for bacteriological contamination, which exceeds state testing frequency requirements.

The current configuration of the drinking water system requires that the entire campground water system be shut down whenever maintenance or repairs are necessary. This in turn requires that the

entire campground be closed. The proposed action includes the installation of an additional water line that would allow maintenance and repair to be undertaken without shutting down the entire system. Therefore, use of most of the campground would not be affected.

The sewer lines and manholes also are leaking. Releases from the system could potentially impact the adjacent wetland, nearby streams, and wildlife. In addition, thousands of gallons of rainwater and groundwater infiltrate the sewer lines each month, greatly increasing the volume of water that must be treated by the sewage treatment plant. This extra volume has caused the plant lagoon to come dangerously close to overload, which could result in the discharge of unsafe effluent into the pristine watershed. An average of three wastewater violations occur each year, typically caused by overflowing manholes.

Another problem in the campground is caused by the drinking fountains in the center of campground Loops A and B. The heavy use of the campgrounds in recent years has led to numerous social trails being formed by foot traffic between the campsites and the fountains. This traffic has damaged vegetation in these areas. In addition, the fountains require constant maintenance because visitors clean cooking utensils in the fountains, which causes the drains to become clogged with grease and debris.

An additional benefit of the proposed action is an opportunity to remove a social trail that crosses a sensitive wetland area associated with Pisgah Creek. This trail was created by visitors walking between campground Loops B and C along a utility easement that crosses the wetland. Under the proposed action, this trail would be replaced by a bridge elevated above the wetland, greatly reducing visitor impacts to this sensitive area.

1.3.1 Scoping History

On March 4, 2003, the Blue Ridge Parkway Superintendent mailed a scoping notice announcing the project proposal and inviting review comments (see Appendix A). The letter was sent to over 26 individuals and organizations on the Parkway's planning mailing list, and was posted on the Parkway's website. At this same time, a news release was distributed to the media and to the staff within the Parkway. The release announced the project proposal, notified interested parties where more information could be obtained, and invited their review comments. The comment period closed on April 4, 2003.

The scoping and public comment review process on this project also involves consultation with affected federal agencies, state and local governments, and interested organizations and individuals.

As a result of the scoping effort, comments have been received from the U.S. Fish and Wildlife Service, the North Carolina Wildlife Resources Commission, the North Carolina Department of Environment and Natural Resources, and several private organizations and individuals (see Appendix B). All comments received in response to the scoping notices have been duly considered and will remain in the project record throughout this planning process. The preferred alternative was developed after taking into consideration these comments, evaluating the resources and visitor impacts, and developing appropriate mitigation to protect resources. This alternative best strikes a

balance between the widest range of use and enjoyment of the Parkway without degradation of the environment or risk to health and safety.

1.3.2 Scoping Issues Considered but not Further Evaluated

The Park Service should consider the possibility of relocating the campground facilities to a less disturbed site if one can be identified. This issue was considered, but not evaluated further because none of the alternatives included in this EA include provisions for constructing recreational and campground facilities in a new location.

2.0 ISSUES AND IMPACT TOPICS

The environmental analysis was prepared in accordance with the regulations of the Council on Environmental Policy Act (CEQ) (40 CFR 1500 et seq.) and in part 516 of the U.S. Department of the Interior's Departmental Manual (516 DM). The National Environmental Policy Act (NEPA) is the basic national charter for environmental protection; among other actions it calls for an examination of the impacts on the components of affected ecosystems. The Parkway Strategic Plan; 2001 NPS Management Policies; NPS Director's Order 12 (DO-12, *Conservation Planning, Environmental Impact Analysis, and Decision-making*), DO-28, *Cultural Resources Management*; and NPS-77, *Natural Resources Management*, among other NPS and park policies, provides general direction for the protection of the natural abundance and diversity of the park's naturally occurring communities.

Various agencies have been contacted and consulted as part of this planning and environmental analysis effort. Appropriate federal, state, and local agencies have been contacted for input, review, and permitting in coordination with other legislative and executive requirements.

This environmental assessment provides disclosure of the planning and decision-making process and potential environmental consequences of the alternatives. The analysis of environmental consequences was prepared on the basis of a need to adequately analyze and understand the consequences of the impacts related to the proposed park developments and to involve the public and other agencies in the decision-making process. In implementing this proposal, the NPS will comply with all applicable laws and executive orders.

Issues and concerns affecting this proposal were identified from past NPS planning efforts, private individuals, environmental groups, and input from other state and federal agencies. The major issues are: conformance of this proposal with the Parkway Strategic Plan; natural resource issues, including special status species [threatened and endangered (T&E) species]; water quality; air quality; recreational resources; cultural (historic and archeological) resources; socio-economic values; and environmental justice.

2.1 Impact Topics Included in This Document

The six major topics for which impacts are analyzed are presented in the following sections.

2.1.1 Soils

The proposed activities have the potential to impact the soil resource; therefore this topic will be briefly analyzed in this document.

2.1.2 Water Quality

Alternatives presented and analyzed in this document could affect waters within the park; therefore, water quality will be addressed as an impact topic in this document.

2.1.3 Vegetation

Proposed activities have the potential to impact the vegetation in the project area; therefore vegetation will be analyzed in this document.

2.1.4 Aquatic Fauna

Trout and other aquatic fauna habitat could be affected by the proposed project; therefore aquatic fauna will be analyzed in this document.

2.1.5 Threatened and Endangered Species

Species listed by the Federal Government as threatened and endangered are protected under the Endangered Species Act of 1973, as amended (ESA) (16 U. S. C. 1531-1543), which requires Federal agencies to ensure that any actions they authorize, fund, or carry out do not jeopardize the “continued existence” of listed species or result in the destruction or adverse modification of habitat designated as critical to their existence. The U.S. Fish and Wildlife Service (USFWS) reviews Federal actions that may result in a negative impact on federally listed plants or animals. In addition to federally listed threatened and endangered species, the Federal government maintains lists of candidate species and Federal species of concern (FSC). Candidate species and FSC species are not afforded protection under the ESA until they are formally proposed for listing.

Animal and plant species listed by the State of North Carolina as endangered, threatened, or special concern are afforded limited protection under the North Carolina Endangered Species Act (G.S. 113-331 to 113-337) and the North Carolina Plant Protection Act of 1979 (G.S. 196-106-202.12 to 106-202.19). These laws are administered by the North Carolina Wildlife Resources Commission and the North Carolina Department of Agriculture, respectively. In addition to state-listed endangered, threatened, and special concern species, the state maintains lists of significantly rare species. Significantly rare species are those that have not been listed as endangered, threatened, or special concern, but which exist in the state in small numbers and

have been determined to need monitoring. Significantly rare species are not afforded any protection under North Carolina law. The state also maintains a watch list of species that are rare, but for which current information does not justify placement on the main rare species list. The National Park Service, by policy, manages state and locally listed species in a manner similar to its treatment of federally listed species (NPS Management Policies 2001).

Section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531 *et seq.*) requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. There is one known federal species of concern and eleven state listed plant species in the vicinity of the proposed project area. There is also one federally-listed endangered and five federal animal species of concern which are known to occur in the project area, and another endangered species has been reported in the vicinity. Three state listed animal species are also confirmed in the project area. (NPS, 2001). Therefore, special status species will be addressed as an impact topic in this document.

2.1.6 Wildlife

There is a variety of wildlife within the project area and proposed activities have the potential to impact the wildlife. Therefore, this topic will be briefly analyzed in this document.

2.1.7 Wetlands

Lands that are subject to regulation as wetlands under Section 404 of the Clean Water Act (jurisdictional wetlands) are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." In accordance with this definition, wetlands must possess the following characteristics: the area is covered in water or the soil is saturated with water at some time during the growing season; the area contains specific soil types defined as "hydric"; and the area contains a predominance of vegetation adapted to the soil conditions and hydrology. The U.S. Army Corps of Engineers (COE) is responsible for the administration of Section 404 and the issuance of permits for the discharge of dredged and fill material into wetlands. Recent modification of Section 404 Nationwide Permits (NWP) has resulted in new regulatory permit requirements for wetland impacts. The modified NWP require COE notification and mitigation for wetland impacts exceeding 0.1 acres. Impacts exceeding 0.5 acres require an Individual Permit from the COE.

Section 404 of the Clean Water Act (33 USC 1344) requires that the U.S. Army Corps of Engineers issue permits for work affecting navigable waters and wetlands of the United States. Soils, hydrology, and vegetation typical of a wetland environment classify jurisdictional wetlands. A wetland approximately six acres in size exists within the project area. Although no construction is planned within the boundaries of this wetland, the proposed action has the potential to impact it, and a permit from the U.S. Army Corps of Engineers is required. Therefore, this topic will be analyzed in this document.

2.1.8 Neo-tropical Birds

A recent Executive Order (E.O. 13186, January 2001) directs each Federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with the U.S. Fish and Wildlife Service to develop an agreement to conserve those birds. The protocols developed by this consultation are intended to guide future agency regulatory actions and policy decisions; renewal of permits, contracts or other agreements; and the creation of or revisions to land management plans. In addition to avoiding or minimizing impacts to migratory bird populations, agencies are expected to take reasonable steps that include restoring and enhancing habitat, preventing or abating pollution affecting birds, and incorporating migratory bird conservation into agency planning processes whenever possible. Mt. Pisgah is an important site for several neo-tropical birds of concern, although only a small amount of habitat would be affected. Therefore, this topic will be briefly analyzed in this document.

2.1.9 Depletable Resources

The use of groundwater and surface water could be affected by the alternatives. Therefore, depletable resources will be addressed as an impact topic in this document.

2.1.10 Presence of Hazardous Substances or Contamination

There is a slight potential for the presence of soil contamination in the project area. In addition, the proposed action and another alternative involve the generation of asbestos-containing waste. Therefore, this topic will be addressed in this document.

2.1.11 Cultural Resources

The NPS is mandated to preserve and protect its cultural resources through the Organic Act of August 25, 1916, and through specific legislation such as the Antiquities Act of 1906, the National Environmental Policy Act of 1969 (as amended), and the National Historic Preservation Act of 1966, as amended, NPS Management Policies, the Cultural Resource Management Guideline (DO-28), and the Advisory Council on Historic Preservation's implementing regulations regarding "Protection of Historic Properties" (36 CFR 800). Other relevant policy directives and legislation are detailed in DO-28.

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies having direct or indirect jurisdiction over undertakings consider the effect of those undertakings on properties on or eligible for listing on the National Register of Historic Places and afford the Advisory Council on Historic Preservation and the state historic preservation office an opportunity to comment.

The Blue Ridge Parkway has and will continue to consult with affiliated American Indian tribes to develop and accomplish its programs in a way that respects the beliefs, traditions, and other cultural values of the American Indian tribes who have ancestral ties to the lands encompassed by the park. The necessity for consultations with American Indians arises from the historic and

current government-to-government relationship of the federal government with the American Indian tribes, particularly those that are federally recognized (*Federal Register* 1995 9250-9255), as well as from the related federal trust responsibility to conserve tribal resources. Consultations with American Indians are also required for compliance with a variety of laws and other legal entities, such as presidential executive orders, proclamations, and memoranda; federal regulations; and agency management policies and directives. Examples are the Indian Self-Determination and Education Assistance Act (1975); The American Indian Religious Freedom Act (1978 and as amended in 1994); the Native American Graves Protection and Repatriation Act (1990); National Historic Preservation Act (as amended in 1992); the Presidential Memorandum of April 29, 1994, entitled "Government-to-Government Relations With Native American Tribal Governments; and Executive Order 13007 of May 24, 1996, entitled "Indian Sacred Sites."

The 1992 amendments to the National Historic Preservation Act and the Archeological Resources Protection Act provide means whereby information about the character, location, or ownership of archeological sites, historic properties, and ethnographic sites, including traditional and cultural sites, might be withheld from public disclosure. This provision is especially important in cases where disclosure could risk harm to the resource or impede the use of a traditional site by practitioners.

Project activities have the potential to affect unidentified archaeological resources contributing to the cultural significance of the area surrounding the proposed project. Therefore, cultural resources are analyzed in this document.

2.1.12 Recreational Resources

The Outdoor Recreation Coordination Act of 1963 promotes coordination/development of effective outdoor recreation programs. Project activities have the potential to affect recreational resources used by park visitors. Therefore, recreational resources will be discussed.

2.1.13 Visual Resources

Visual resources could be affected by the alternatives. Therefore, park visual resources will be addressed as an impact topic in this document.

2.1.14 Socio-economic Values

The local economy and most business of the communities surrounding the park are based on construction, recreation, transportation, tourist sales, services, and light industry; the regional economy is strongly influenced by tourist activity. As part of the Pisgah Inn and portions of the campgrounds would be closed during construction, socio-economic values will be addressed as an impact topic in this document.

2.1.15 Utilities and Services

As the primary scope of the alternatives involves upgrades to the water and sewer systems at the Mt. Pisgah Developed Area, the impacts to these systems will be analyzed in this document. As the alternatives would also have an impact on the use of electricity, this topic will also be briefly discussed in this document.

2.2 Impact Topics Dismissed From Further Analysis

The five topics that were dismissed from further analysis in this environmental assessment are described in the following sections.

2.2.1 Air Quality

Section 118 of the Clean Air Act, as amended (42 USC 7401 *et seq.*) requires all federal facilities to comply with existing federal, state, and local air pollution control laws and regulations.

The installation or construction of the proposed alternative would have temporary impacts to ambient air, and local air quality may be temporarily degraded by dust generated from construction activities. This degradation would last only as long as construction was in progress and neither overall park air quality nor regional air quality would be affected. For these reasons, air quality was dismissed as an impact topic.

2.2.2 Natural Hazards

A review of the Federal Emergency Management Agency (FEMA) floodplain maps for Haywood and Transylvania counties indicates that the site is within Zone C; i.e., outside of the 500-year floodplain (FEMA, 1983). The 500-year floodplain is defined as the area underwater during the highest flood that occurs on average once per 500 years or has a 0.2 percent chance of occurring or being exceeded each year. The site is at low risk for other natural hazards (Transylvania County Emergency Management). Due to the low risk of natural hazards, and the lack of potential for impacts to these hazards from the alternatives, natural hazards was dismissed as an impact topic.

2.2.3 Noise

The Noise Control Act of 1972, as amended, sets standards and procedures for limiting noise that jeopardizes Americans' health and welfare. Impacts to noise levels would be temporary during construction activities and visitor disruption would be minor. For these reasons, noise was dismissed as an impact topic.

2.2.4 Prime and Unique Farmlands

Proposed activities do not have the potential to impact prime and unique farmlands; therefore, this issue will not be addressed in this document.

2.2.5 Land Use and Planning

The vicinity of the site is not subject to any local land use plans. Transylvania County does not have a Comprehensive Plan. The Haywood County Comprehensive Plan does not address federally-owned lands, such as the Pisgah National Forest or the Blue Ridge Parkway. The site is not subject to county zoning regulations, as it is situated entirely on federally-owned land. Therefore, Land Use and Planning was dismissed as an impact topic in this document.

2.2.6 Environmental Justice

No alternative would have health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency (EPA)'s Draft Environmental Justice Guidance (July 1996). Environmental Justice was dismissed as an impact topic in this document.

2.2.7 Transportation

The installation or construction of the proposed alternative would have temporary impacts to traffic from a temporary lane closure during part of the construction activities. This inconvenience would last only as long as construction was in progress and overall traffic flow would not be affected. Parking, mass transit, and bicycle movement would not be affected by the alternatives. For these reasons, transportation was dismissed as an impact topic.

3.0 ALTERNATIVES CONSIDERED

This section describes the three alternatives that are analyzed in this environmental assessment. The three alternatives are: (1) No action, (2) Replacement of various water and sewer lines and perform other actions as described below (the preferred alternative), and (3) Replace water and sewer lines in existing locations.

3.1 Alternative 1: No Action Alternative

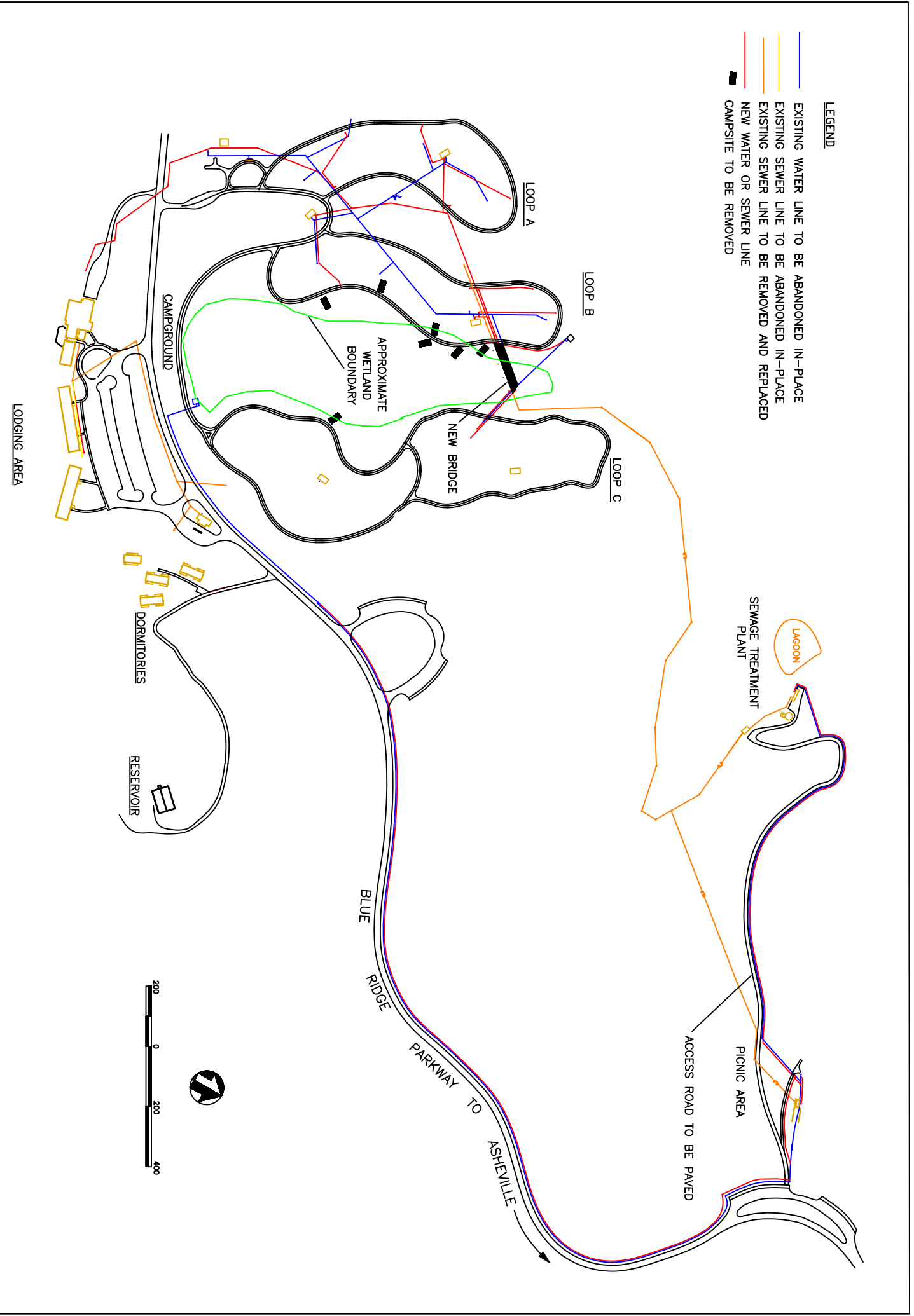
The No Action Alternative serves as a baseline for comparing other alternatives. The No Action Alternative for this project includes operating the Mt. Pisgah facilities without replacing any water or sewer lines. The bridge over the wetland also would not be constructed. The existing water and sewer systems would continue to be maintained without upgrade. The No Action Alternative would have no impacts on physical characteristics, recreational resources, scenic resources, socio-economic factors or cultural resources. However, the benefits that would be derived from the rehabilitated

utilities would not be realized. The existing detrimental conditions would continue, including leakage from the drinking water lines, infiltration into the sewer lines, occasional sewage overflows, and release of untreated sewage into soil. The potential for adverse affects to the water quality of the wetland from sewage leaks would continue, and increase over time. The existing conditions at the utility crossing of the wetland associated with Pisgah Creek, the campsites adjacent to the wetland, and the social trails inside of the campground loops also would continue.

3.2 Alternative 2: Preferred Alternative

Under this alternative, the National Park Service would replace various water and sewer lines and perform other actions as described below (see Figure 1).

1. Replace all water lines in campground Loops A and B: This consists of approximately 3200 feet of pipe that would be placed in the existing sewer easement and about 960 feet that would be in new areas. The existing water lines would be abandoned in place, and the existing water line easements would be allowed to re-vegetate. The rerouted sections would be:
 - a. 160-foot line to a yard hydrant at south end of Loop A would be rerouted to avoid passing through two campsites.
 - b. The main line that runs through Loops A and B would be rerouted to consolidate all utilities as much as possible into one easement. The new main water line would be placed inside of the existing sewer line easements.
 - c. Seven drinking fountains in the interior of Loops A and B would be removed and replaced with eight new yard hydrants along the loop roads. This would require five new sections of water line (approximately 800 feet total) within the loops. The routes of the lines would be chosen to follow existing paths where possible and avoid large trees. The social trails to the existing drinking fountains could then be allowed to re-vegetate.
2. Construct approximately 800 feet of new waterline from the restaurant/concessions area to Loop A. Approximately 100 feet of this route would pass through a wooded area. The route would be chosen to avoid large trees.
3. Replace approximately 1000 feet of sewer line and five manholes in the restaurant/lodging area, including a crossing under the Blue Ridge Parkway. All lines would be placed adjacent to the existing lines within the existing easement, except for a 250-foot section relocated 10 feet to avoid a building. The existing lines would be abandoned in place.
4. Demolish the existing aboveground sewer line that crosses the wetland. The existing aboveground sewer line, concrete piers and the two sections of metal pipe would be removed by crane to allow natural water flow through the current crossing area. Disturbance would not extend further into the wetland.



MT. PISGAH DEVELOPED AREA
FIGURE 1: ALTERNATIVE 2 – PROPOSED ACTION

5. Construct a new 100-foot long steel footbridge over the wetland. The maximum height of the bridge at the top of the railings would be approximately 10 feet above the lowest point ground level of the crossing. The bridge railings would be approximately 5 feet above ground level at each end of the bridge.
6. New water and sewer lines would be suspended from the bridge. Approximately 200 feet of water line in the existing easement inside Loop C would be replaced to connect with the water line that crosses the bridge. All footings for the bridge would be constructed outside of the delineated wetland area. Frequent removal of wetland vegetation would not be required.
7. Replace approximately 4500 feet of water line on the west side of the Blue Ridge Parkway to the picnic area, and on the west side of the sewage treatment plant access road. This line would be installed adjacent to the existing line within the existing easement. The existing asbestos-cement pipe would be abandoned in place, except in certain locations where it must be removed due to space constraints. An additional 400 feet of new water line would be constructed in the shoulder of the picnic area access road, replacing a line that runs in an easement. The existing easement would then be allowed to re-vegetate.
8. Replace approximately 2600 feet of sewer line and 16 manholes from Loop C to the sewage treatment plant, and 1000 feet from the picnic area to the sewage treatment plant. The existing lines would be removed, but the manholes would be reused if possible.
9. Repave the access road to the sewage treatment plant.
10. Demolish seven campsites adjacent to the bog. In Loop C, number 131 would be removed, and in Loop B, numbers 37, 40, 41, 42, 44, and 46 would be removed. This would include removal of pavement in parking slips, tent pad materials and edging, picnic tables, grills, trash receptacles, and curbstones. The natural grade of each site would be restored and a layer of mulch would be placed over the area (see Figure 2).

This alternative would eliminate the current maintenance problems, water line leakage, sewer line infiltration, sewer overflows, exposure of visitors to potentially contaminated drinking water, and potential discharge of sewage into a sensitive wetland and nearby streams. It would also bring the system into compliance with North Carolina drinking water regulations. Construction of the bridge, removal of the fill and concrete utility support piers in the wetland, and demolition of the campsites would restore natural water flow in the wetland, and greatly reduce visitor impact to the area. Rerouting of the water lines and removal of the drinking fountains would allow revegetation of the social trails and water line easements within campground Loops A and B. Construction of the new water line would allow for repair and maintenance of the campground drinking water system to be undertaken without closing the entire campground.

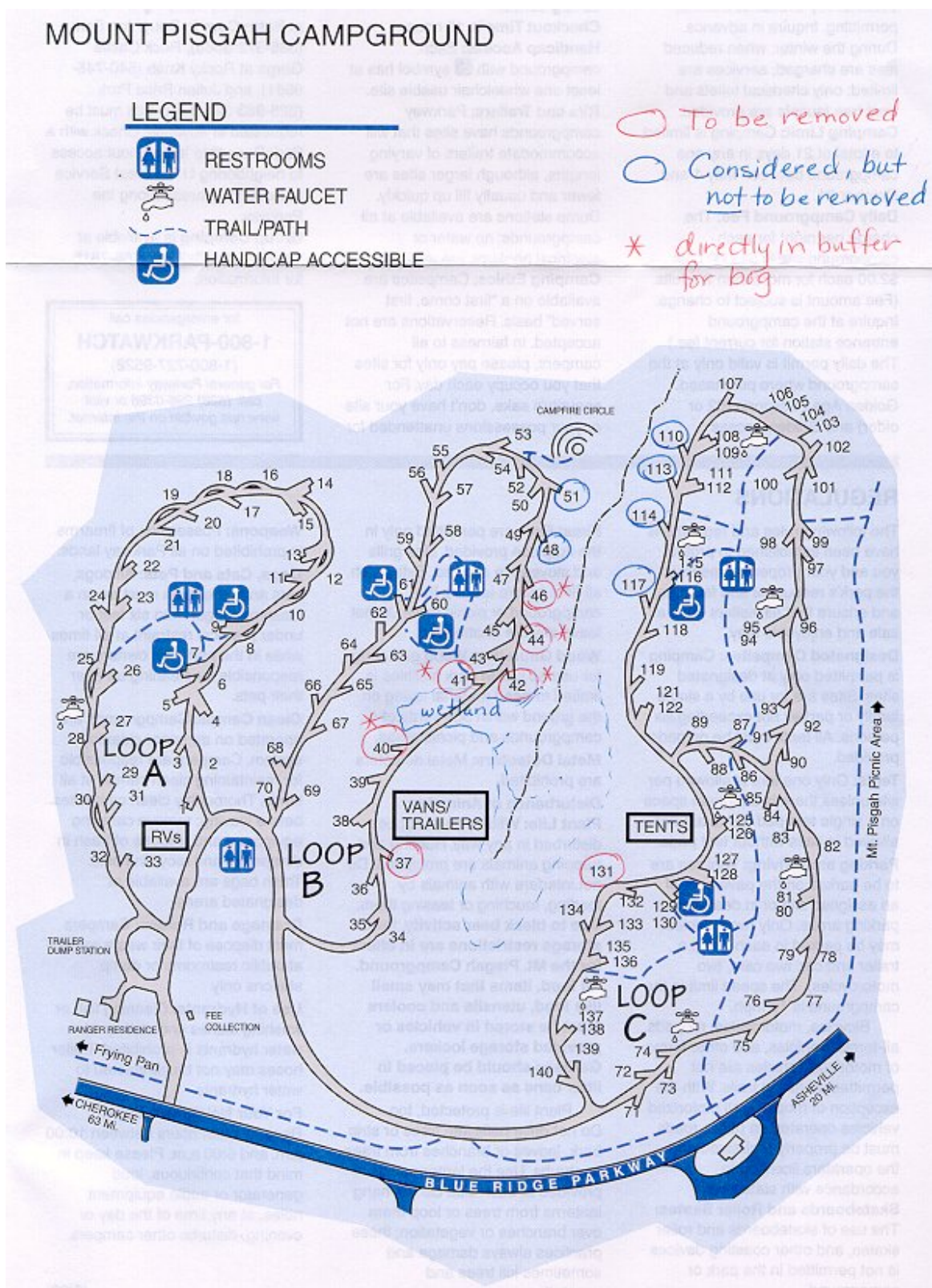


Figure 2 Map of Campsites to be Removed

3.3 Alternative 3: Replace Water and Sewer Lines in Existing Locations

Under this alternative, the National Park Service would replace the same water and sewer lines listed in Alternative 2. However, all existing lines would be removed, and all new lines placed in the same location as the existing lines (see Figure 3). No new lines would be constructed. The other actions (construction of the bridge, demolition of campsites, and repaving of the road) would be the same as in Alternative 2.

This alternative would achieve most of the benefits of Alternative 2. In addition, it would avoid construction of approximately 1000 feet of utility trenches. However, the benefits of rerouting the water lines and removing the drinking fountains would not be realized. The benefits of the new water line also would not be realized. In addition, this alternative would require disposal of approximately 4500 feet of asbestos-cement water pipe.

3.4 Environmentally Preferred Alternative

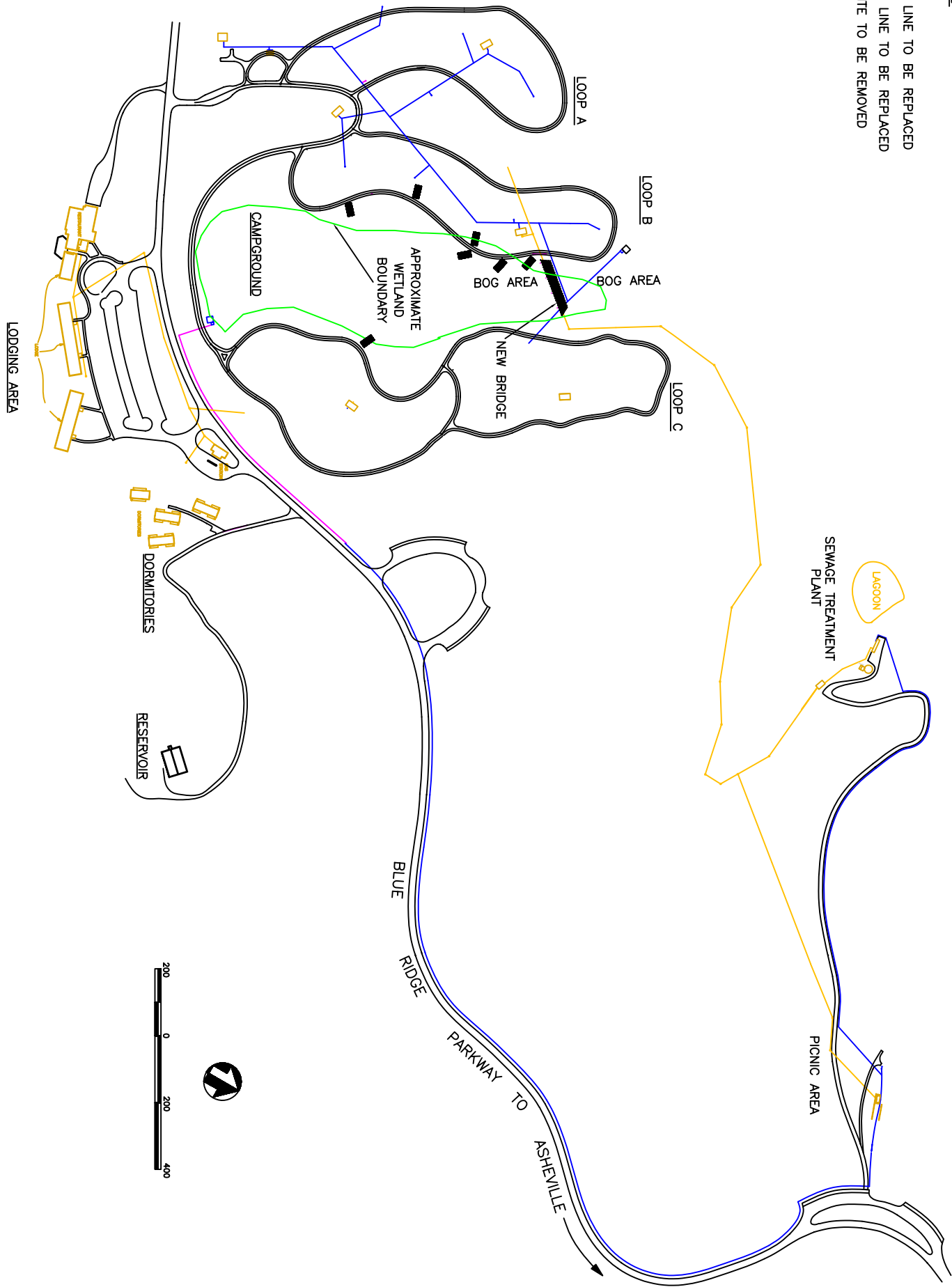
National Park Service policy requires that an environmentally preferred alternative be identified as the one that best promotes the national environmental policy expressed in the National Environmental Policy Act, section 101(b). This includes alternatives that:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative is determined by applying the above criteria, which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Generally, this means the alternative that causes the least damage to the biological and physical environment. It also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources." (Council on Environmental Quality, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (40 CFR 1500-1508), *Federal Register* Vol. 46, No. 55, 18026-18038, March 23, 1981: Question 6a.

LEGEND

- WATER LINE TO BE REPLACED
- SEWER LINE TO BE REPLACED
- CAMP SITE TO BE REMOVED



MT. PISGAH DEVELOPED AREA
FIGURE 3: ALTERNATIVE 3 – REPLACE LINES IN SAME LOCATION

After consideration of state, federal and public comments throughout the scoping and planning process, careful review of potential resource and visitor impacts, and developing appropriate mitigation to protect resources, the preferred alternative best strikes a balance between the widest range of use and enjoyment of the Blue Ridge Parkway without degradation of the environment or risk of health or safety, while providing an environment which supports a variety of individual choice; and finally, to achieve a balance between population and resource use.

Alternative 2, the Preferred Alternative, is the environmentally preferred alternative, as it provides the greatest benefits to Pisgah Creek, the wetland, and the water and sewer systems, with minimal short-term construction impacts.

This alternative would eliminate potential health problems associated with sewage leaks and nonconformance with North Carolina State drinking water regulations, resulting in long-term, major, beneficial impacts on visitor and employee health and safety. Over the long-term, Alternative 2 would have moderate to major, beneficial impacts on visitor use and experience, and recreation due to eliminating the leakage from drinking water lines, sustaining the long-term use of the area for recreation, improving the area's visual quality, and reducing water pollution in downstream areas. Implementation of Alternative 2 would be consistent with the Blue Ridge Parkway's mission of enhancing scenic and recreational qualities and promoting public enjoyment. Alternative 2 would meet the goals of attaining the widest range of beneficial uses of the environment without degradation, risk to human health or safety, or other undesirable and unintended consequences; assuring a safe, healthful, productive, and aesthetically and culturally pleasing environment for all users; and preserving important historic, cultural, and natural aspects of our national heritage, while maintaining an environment that supports diversity and a variety of individual choice.

Alternative 2 would allow for the continuance of existing land uses and visitation in the area. This alternative would meet the goal of fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations. Eliminating the potential for serious leaks and the existing threats to the Park's structures would allow the NPS to undertake other improvements to the Park to enhance visitor experience and safety and to protect important resources of the Park, including natural resources. This alternative would help to meet the goal of achieving a balance between population and resource use, which will permit high standards of living and a wide sharing of life's amenities.

3.5 Alternatives Considered But Dismissed

Two additional alternatives to construction of the bridge were evaluated, but eliminated from further study. These alternatives consisted of either placing the utility lines in a boring drilled beneath the wetland or rerouting the lines around the wetland. These alternatives were rejected for several reasons: they do not address the problems caused by the social trail through the wetland; and both alternatives also would require construction of sewage lift stations, which have additional maintenance requirements. Also, rerouting of the lines would involve excavation of several hundred additional feet of utility trenches in areas left undisturbed in Alternatives 2 and 3.

A third alternative eliminated from further study consisted of constructing a boardwalk over the

wetland instead of a steel bridge. Although this alternative offers the aesthetic benefits of a boardwalk closer to the ground surface than a bridge, it requires excavation of footings within the wetland. In addition, the water and sewer lines would have to be elevated above the boardwalk, placing them in prominent view and thereby eliminating any aesthetic benefits of this alternative.

4.0 THE AFFECTED ENVIRONMENT

4.1 Parkway-wide Overview

The Blue Ridge Parkway follows the high crests of the central and southern Appalachians for 469 miles from Shenandoah National Park in Virginia to the Great Smoky Mountains National Park in North Carolina. Its breathtaking scenic beauty, unbridled natural resources, and unique historic sites make it the showpiece rural parkway of the National Park Service. But the Parkway is also notable as a remarkable landscape architecture and engineering achievement.

Design of the Parkway began in 1934. More than 50 years in the making, the Parkway was completed in 1987 with the construction of a 7.5-mile section around the rugged and winding terrain of Grandfather Mountain.

The Parkway intersects three mountain provinces (ridge, plateau, and highlands) and extends almost 4 degrees in longitude and 2½ degrees in latitude, the third largest geographic range of any unit in the national park system. Yet, despite this extent, its width averages only 800 feet wide between developed areas.

The Parkway occupies 88,000 acres of lands within the socio-political boundaries of two states, six congressional districts, 12 counties in Virginia, 17 counties in North Carolina, 185 miles within four national forests, 11 miles within the Qualla Boundary Reservation of the Eastern Band of Cherokee Indians (Cherokee Indian Reservation), two state parks, nine watershed basins, a dozen municipal watersheds, and three metropolitan areas. There are more than 1,200 miles of boundary and 4,500 adjacent property owners. Three interstates, 270 secondary roads, and 400 utility lines bisect natural features. Like beads on a necklace, 900 vistas, 275 paved overlooks, 18 recreational areas, 14 backcountry areas (ranging from 1,000 to 5,000 acres), and 13 maintenance facilities line the Parkway to accommodate visitors. With annual use approaching 20,000,000 people, it is the most highly visited unit in the National Park System.

Parkway natural resources include 400 miles of streams with at least 150 headwaters, 1,250 vascular plants species (50 rare or endangered), six rare or endangered animals, a variety of slopes (mostly steep) and exposures, possibly 100 different soil types, an elevation range of 5,700 vertical feet, and 100 exotic plants. The Parkway also bisects 47 natural heritage areas, which includes more than half of the high-elevation wetlands known in North Carolina.

The primary activity is recreational driving, sight seeing and hiking. The Parkway also provides naturalist walks and talks, self-guided nature trails, roadside exhibits, picnicking, and camping.

4.2 Pisgah District Overview

The Mt. Pisgah Developed Area is in the Appalachian Mountains of western North Carolina. Mt. Pisgah is approximately 25 miles southwest of Asheville, North Carolina and is surrounded by the Pisgah National Forest (Figure 4). The site of the proposed action is in Haywood and Transylvania Counties.

Haywood County has an area of 544 square miles, of which approximately 40 percent is within a national forest or national park (Haywood County, 2002). Its population increased from 46,942 in 1990 to 54,033 in 2000, and is projected to reach 60,247 by 2010. The labor force increased from 22,344 to 25,258 between 1990 and 2000, while the unemployment rate declined from 3.9% to 2.6% during this period. The number of housing units grew from 23,975 in 1990 to 28,640 in 2000 (U.S. Census).

Transylvania County covers an area of 379 square miles, approximately 36 percent of which is within the Pisgah National Forest (Brevard, 2002). The population of the county rose from 25,520 to 29,334 between 1990 and 2000. It is projected to reach 32,419 by 2010. The labor force increased from 11,441 in 1990 to 13,254 in 2000. The unemployment rate rose from 2.6% in 1990 to 2.7% in 2000. The number of housing units within the county increased from 12,893 to 15,553 between 1990 and 2000 (U.S. Census).

The largest employer in Haywood County is Blue Ridge Paper Products. Other products manufactured in the county include furniture, military boots, Epson salt, and textile labels. Tourism is also a major part of the county's economy (Haywood County, 2002).

The largest employer in Transylvania County is the Glatfelter, P H Co, a paper manufacturer. Other manufacturers in the county produce photographic equipment, machine tools, and textile labels. Tourism also contributes significantly to the local economy (Brevard, 2002).

The proposed action would take place within an area of approximately 4000 feet by 2800 feet, encompassing most of the Mt. Pisgah Developed Area (Figure 1). Most of the site is on the west side of the Blue Ridge Parkway; it contains 140 campsites, a picnic area, and a sewage treatment plant. The remainder of the site on the east side of the Parkway contains the Pisgah Inn, a restaurant, service station, and employee dormitories. The site is bounded on all sides by the Pisgah District of the Pisgah National Forest, a wooded area of approximately 234,000 acres.



Figure 4 Site Location Map

4.3 Natural Resources

4.3.1 Subsurface and Geological

A soil survey of the Mt. Pisgah Developed Area was performed in 2002 by the U.S. Soil Conservation Service. This survey identified all soil types in the area of the proposed action. These soil types are listed in Table 1.

Table 1. Soil Types Within the Project Area

Soil Type	Location
Balsam-Tanasee complex	Loop A and stream crossing near sewage treatment plant
Burton-Craggey complex, thin surface	Area between wetland crossing and sewage treatment plant; area between Loop A and the parkway
Burton-Wayah complex, thin surface	Area between sewage treatment plant and the Parkway
Longhope mucky peat	Wetland area and northeast edge of Loop B
Tanasee-Balsam complex	Southern half of Loop B
Udorthents-Urban land complex	Vicinity of the Parkway itself and sewage treatment plant
Whiteside-Sylva complex, frigid	Northern half of Loop B and portion of Loop C

The Balsam soils are deep, well-drained soils made of sandy loam underlain by very cobbly loam and fine sandy loam. The Burton soils are well-drained soils made of loam underlain by sandy loam. The Longhope soil has been used to define the boundaries of the wetland area within the site. The Tanasee soils are very deep, well-drained soils made of sandy loam underlain by coarse sand. Udorthent soils have been disturbed by excavation, filling, and/or construction of buildings and paved areas. The Whiteside soils are very deep, moderately well-drained soils made of fine sandy loam underlain by sandy clay loam and fine sandy loam. All of these soils (other than the Udorthents) have moderately rapid permeabilities and moderate or high water capacities. Soil permeability, acidity, and water capacities for Udorthentic soils vary greatly, but these soils generally have moderate permeability and low water capacity (USDA, 2002).

4.3.2 Landforms

Brevard and Haywood counties are within the Blue Ridge physiographic region. This region is a deeply dissected mountainous area of numerous steep mountain ridges, intermontane basins, and trench valleys that intersect at all angles and give the area its rugged mountain character. The Blue Ridge contains the highest elevations and the most rugged topography in the Appalachian Mountain System of eastern North America. The North Carolina portion of the Blue Ridge is about 200 miles long and ranges from 15 to 55 miles wide. It contains an area of about 6,000 square miles, or about 10 percent of the area of the state. The highest point in the site vicinity is Mount Pisgah, with an elevation of 5721 feet above mean sea level (msl). The bedrock formation in this vicinity is known as the Carolina gneiss, which consists of large areas of mica and garnet schists; and mica, garnet, and

cyanite gneisses. The exact origin of this rock has not been definitely determined; it may have resulted from the metamorphism of a granite rock (Carolina Geological Society, 1991).

The site is in Flat Laurel Gap, a relatively flat area on the crest of a mountain ridge that runs in a southwest-to-northeast direction. The site is at an elevation ranging from approximately 4800 to 4900 feet msl. The portion of the site on the western side of the Parkway slopes to the northwest, while that portion east of the Parkway slopes to the southeast (USGS, 1987).

4.3.3 Wetlands

The project area contains approximately six acres of wetlands in the area between campground Loops B and C. The approximate boundary of this area is displayed in Figures 1 and 3. These wetlands are comprised of the southern Appalachian bog community. The bog is a seepage-fed wetland with a hydrological regime driven by groundwater seepage and precipitation. Soils of the bog are comprised of Longhope mucky peat. An existing aboveground sewer line crosses approximately 50 feet of the delineated wetland near the northwestern edge of Loop C where Flat Laurel Creek transects the wetland (see Figures 1 and 3). The crossing includes fill material that was placed in the wetland for support of the sewer line and a culvert that directs flow through the fill material. Numerous campsites surround the bog in the adjacent uplands. Young (2003) conducted a geologic investigation of the bog, which included the development of management recommendations for the site. These recommendations included protecting the hydrology of the entire watershed to ensure that natural sources of groundwater flow into the wetland are not restricted, preventing groundwater contamination, restricting access to the bog, and monitoring hydrology and vegetation.

A first order perennial stream originates at the southeastern end of the bog. The stream flows to the northwest through the central portion of the bog before exiting at the northwestern end of the campground. Numerous additional perennial and intermittent streams are located in the vicinity of the project. These streams eventually join to form an unnamed tributary of Pisgah Creek. An existing sewer line crosses one of the streams southeast of the wastewater treatment plant. The crossing includes fill material that was placed in the stream for support of the sewer line and a culvert that directs flow through the filled area.

4.3.4 Vegetation and Wildlife

Natural communities occurring within the project area include southern Appalachian bog (6.21 acres); acidic cove forest (16.88 acres); boulderfield forest (0.35 acre); spruce-hemlock forest (45.46 acres); high elevation red oak forest with deciduous shrub (629.49 acres); high elevation red oak forest with evergreen shrubbery (390.53 acres); and northern hardwoods forest beech gap subtype (0.71 acre) (NPS, 2001). Several of these community types are ranked by the North Carolina Natural Heritage Program (NCNHP) as imperiled or rare in North Carolina. These communities include the southern Appalachian bog community (critically imperiled – S1), the northern hardwoods forest beech gap subtype community [imperiled (rank uncertain)], and the boulderfield forest community (rare or uncommon – S3). The southern Appalachian bog

community within the project area is known as the Flat Laurel Gap Wetland. Vegetation of the site was evaluated in studies conducted by Pittillo (1994) and Weakley and Schafale (1994).

The majority of the existing sewer and water line corridors are located within the high elevation red oak forest community. The vegetation of these corridors is maintained in an early successional state by regular vegetation maintenance procedures. The existing sewer line also crosses the southern Appalachian bog community near the northwestern edge of Loop C. Vegetation immediately upstream of the sewer line wetland crossing has been impacted by fill material and a culvert that were placed in the bog for support of the existing line. Additional existing utility lines are located within paved areas, road shoulders, and other maintained grassy areas associated with buildings, roads, and parking lots.

National Park Service biologists have conducted surveys to document occurrences of mammals, birds, reptiles, and amphibians within the Mt. Pisgah Developed Area in 2001 (NPS, 2001). Potential species were identified for each group and survey techniques established.

Mammals were surveyed through small mammal live-trapping, field observations, and identification of road killed species. Twenty species were identified within the Pisgah Developed area (Table 2).

There were four mammal species that were expected to occur at the site but for which no observations were made. These are beaver (*Castor canadensis*), hairy-tailed mole (*Parascalops breweri*), muskrat (*Ondatra zibethicus*), and red squirrel (*Tamiasciurus hudsonicus*).

Birds were surveyed primarily through point counts. Thirty-nine species were confirmed. See Table 3.

Salamanders were surveyed through the use of sampling plots, cover boards, random searches of suitable habitat, and incidental species observations. Table 4 lists the salamander species encountered.

A list of frogs and toads was created by suitable habitat types found within the Mt. Pisgah Developed Area according to Wilson's Land Manager's Guide to Amphibians and Reptiles. Table 5 lists the potential and confirmed species of frogs and toads.

Reptiles were surveyed through the use of incidental species observations and identification of road killed species. Table 6 lists the potential and confirmed species of reptiles.

Table 2. Mammal Species Observed by NPS at Mt. Pisgah Developed Area, 2001

Common Name	Scientific Name
Appalachian cottontail	<i>Sylvilagus obscurus</i>
Black bear	<i>Ursus americanus</i>
Bobcat	<i>Lynx rufus</i>
Common raccoon	<i>Procyon lotor</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Eastern chipmunk	<i>Tamias striatus</i>
Fox (red and/or grey)	<i>Vulpes vulpes</i> and/or <i>Urocyon cinereoargenteus</i> (species unconfirmed)
Golden mouse	<i>Ochrotomys nuttalli</i>
Gray squirrel	<i>Sciurus carolinensis</i>
House mouse	<i>Mus musculus</i>
Masked shrew	<i>Sorex cinereus</i>
Northern flying squirrel	<i>Glaucomys sabrinus</i>
Smoky shrew	<i>Sorex fumeus</i>
Southeastern shrew	<i>Sorex longirostris</i>
Southern red-backed vole	<i>Clethrionomys gapperi</i>
Striped skunk	<i>Mephitis mephitis</i>
White-footed mouse	<i>Peromyscus leucopus</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Woodland (pine) vole	<i>Microtus pinetorum</i>
Woodland jumping mouse	<i>Napaeozapus insignis</i>

Table 3. Bird Species Observed by NPS in Mt. Pisgah Developed Area, 2001

Common Name	Scientific Name	Relative Abundance
Acadian Flycatcher	<i>Empidonax virescens</i>	R
American Crow	<i>Corvus brachyrhynchos</i>	C
American Goldfinch	<i>Carduelis tristis</i>	U
American Robin ^N	<i>Turdus migratorius</i>	A
Black-and-white Warbler	<i>Mniotilta varia</i>	U
Blackburnian Warbler	<i>Dendroica fusca</i>	U
Black-capped Chickadee	<i>Parus atricapillus</i>	U
Black-throated Blue Warbler ^N	<i>Dendroica caerulescens</i>	C
Black-throated Green Warbler	<i>Dendroica virens</i>	U
Blue Jay	<i>Cyanocitta cristata</i>	A
Brown Creeper	<i>Certhia americana</i>	U
Brown Thrasher ^N	<i>Toxostoma rufum</i>	C
Canada Warbler ^N	<i>Wilsonia canadensis</i>	C
Cedar Waxwing	<i>Bombycilla cedrorum</i>	C
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	A
Common Raven	<i>Corvus corax</i>	U
Common Yellowthroat	<i>Geothlypis trichas</i>	R
Downy Woodpecker	<i>Picoides pubescens</i>	U
Eastern Phoebe ^N	<i>Sayornis phoebe</i>	C
Eastern Screech Owl	<i>Otus asio</i>	R
Eastern Wood-pewee	<i>Contopus virens</i>	U
Golden-crowned Kinglet	<i>Regulus satrapa</i>	C
Gray Catbird ^N	<i>Dumetella carolinensis</i>	A
Hairy Woodpecker	<i>Picoides villosus</i>	U
Indigo Bunting	<i>Passerina cyanea</i>	C
Mourning Dove	<i>Zenaidura macroura</i>	U
Red-breasted Nuthatch	<i>Sitta canadensis</i>	C
Red-eyed Vireo	<i>Vireo olivaceus</i>	U
Rose-breasted Grosebeak	<i>Pheucticus ludovicianus</i>	U
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	U
Ruffed Grouse	<i>Bonasa umbellus</i>	U
Rufous-sided Towhee ^N	<i>Pipilo erythrophthalmus</i>	A
Scarlet Tanager	<i>Piranga olivacea</i>	U
Slate-colored Junco ^N	<i>Junco hyemalis</i>	A
Solitary (Blue-headed) Vireo ^N	<i>Vireo solitarius</i>	A
Veery ^N	<i>Catharus fuscescens</i>	A
White-breasted Nuthatch	<i>Sitta carolinensis</i>	C
Winter Wren	<i>Troglodytes troglodytes</i>	U
Yellow Warbler	<i>Dendroica petechia</i>	R
Note: ^N = a nest was found for this species		
Relative Abundance (from May to August): A – abundant (a common species which is numerous) C – common (certain to be seen in suitable habitat) U – uncommon (present, but not certain to be seen) R – rare (seen only a few times during a season, or, not seen, but recorded to be present)		

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Table 4. Salamanders Observed by NPS at Mt. Pisgah Developed Area, 2001

Common Name	Scientific Name
Black-bellied Salamander	<i>Desmognathus quadramaculatus</i>
Jordan's Salamander	<i>Plethodon jordani</i>
Mountain Dusky Salamanders	<i>Desmognathus ochrophaeus</i> complex (<i>D. carolinensis</i> , <i>D. imitator</i> , <i>D. ocoee</i> , and <i>D. ochrophaeus</i>)
Pygmy Salamander	<i>Desmognathus wrighti</i>
Red Salamander	<i>Pseudotriton ruber</i>
Seal Salamander	<i>Desmognathus monticola</i>
Spring Salamander	<i>Gyrinophilus porphyriticus</i>
Two-lined Salamander (Blue Ridge Two-lined)	<i>Eurycea bislineata</i> (<i>wilderae</i>)

Table 5. Potential and Confirmed Frogs and Toads at Mt. Pisgah Developed Area

Common Name	Scientific Name	Habitat
American Toad	<i>Bufo americanus</i>	Mixed mesic forests; upland hardwoods and white pine and hemlock; garden and agricultural lands
Woodhouse's (Fowler's) Toad	<i>Bufo Woodhousii</i>	Mesic upland hardwoods, mixed pine-hardwood, residential lawn and garden; sandy or friable soil for burrowing
Gray Treefrog ¹	<i>Hyla chrysocelis</i> and <i>versicolor</i>	Small ponds, roadside ditches, beaver ponds, or other standing water with white oak-red oak-black oak; mixed pine-hardwoods; often found in recently disturbed areas with abundant shrubs, herbaceous growth and vines; breed in shallow ponds with fallen branches or extensive herbaceous growth along edges
Mountain Chorus Frog ²	<i>Pseudacris branchyphona</i>	Wooded hills and mountains with seepage areas, damp leaf litter; roadside ditches and other shallow pools and wet areas; breed in adjacent wet areas (usually ephemeral)
Spring Peeper ¹	<i>Pseudacris crucifer</i>	Woodland areas especially with a brushy, secondary growth near small temporary or semi-permanent ponds, marshes and swamps; breeds in vernal pools with nearby shrubs
Bull Frog	<i>Rana catesbeiana</i>	Medium to large permanent bodies of water; larvae need two years to reach development at higher elevations
Green Frog	<i>Rana clamitans</i>	Springs, ponds, reservoirs, creeks, beaver ponds, ditches, bogs and swamps; favors grassy margins along standing water; breeds in semi-permanent water (is a semi-aquatic species)
Pickerel Frog	<i>Rana palustris</i>	Wooded areas; sphagnum bogs, meadows and grassy fields; associated with yellow poplar, beech-maple, and white oak-red oak; breeds in marshy ponds or pools
Wood Frog	<i>Rana sylvatica</i>	Moist woods – hardwood valleys and upland pine forests; breed in open water ponds, slow moving portions of streams and roadside ditches
Notes: 1 = Confirmed species 2 = See discussion in text		

Table 6. Potential and Confirmed Reptiles at Mt. Pisgah Developed Area

COMMON NAME	SCIENTIFIC NAME	HABITAT
Bog Turtle ¹	<i>Chlemmys muhlenbergii</i>	Sphagnum bogs, marshy meadows and pastures with small shallow streams with soft bottoms and various <i>Carex</i> sp.
Eastern Box Turtle ²	<i>Terrapene carolina</i>	Frequents open woodland habitats – pine woods, upland hardwoods, and mixed pine-hardwoods; groundcover is usually thick and may include blackberry thickets
Snapping Turtle	<i>Chelydra serpentina</i>	Lakes, reservoirs, rivers, swamps, borrow pits; soft muddy bottoms with abundant aquatic vegetation
Coal Skink	<i>Eumeces anthracinus</i>	Inhabit humid, wooded or rocky hillsides (mixed pine-hardwoods) that are usually near water; found under logs, rocks, and leaf litter on the forest floor
Five Lined Skink	<i>Eumeces fasciatus</i>	Hardwood forests, especially those with abundant logs, snags, rocks, and decaying debris; usually moist areas near small streams or standing water
Fence Lizard (Northern)	<i>Sceloporus undulatus hyacinthinus</i>	Favors open, dry, pine habitats throughout its range, but may be found in mixed forest types or ecotone areas between pine and hardwood types
Black Racer	<i>Coluber constrictor</i>	Most common in open pine woods, forest edges, and bushy margins of streams, swamps, and lakes; hide around under boards, old home sites, and similar debris
Black Rat Snake ²	<i>Elaphe obsoleta</i>	Upland hardwoods, river swamps, fields, white pine-hemlock, rocky pine hillsides; found in snags, hollow trees, and rural buildings
Eastern Garter Snake ²	<i>Thamnophis sirtalis</i>	Found in any mesic habitat; meadows, marshes, rocky hillsides, drainage ditches and wooded residential areas
Eastern Milk Snake ²	<i>Lampropeltis trianguluar</i>	Rocky hillsides, meadows, hardwoods, river valley, and bog forests; found under decaying logs, stumps, rock piles, bark, and in and around old structures
Eastern Worm Snake	<i>Carphophis amoenus</i>	Mesic hardwoods with abundant leaf litter and humus; fossorial snake found under logs, leaves, stumps, rocks or other surface debris
Northern Copperhead ²	<i>Agkistrodon contortrix mokasen</i>	Dry, upland hardwoods, open pine regions, damp meadows, old field situations and most pine types
Northern Redbelly Snake	<i>Storeria occipitomaculata</i>	Found under logs, bark, or rocks in mesic, mountainous, forested habitats where soil is heavy; also occurs in swamp margins, open deciduous forests and residential areas
Northern Ringneck Snake ²	<i>Diadophis punctatus (edwardsii)</i>	Prefer moist forests, upland hardwoods, forest edges, white pine-hemlock, residential areas; found in rotting stumps, logs, under stones and leaf litter
Northern Water Snake	<i>Nerodia sipedon</i>	Rocky streams, farm ponds, beaver ponds, lakes, reservoirs, and rivers; found basking on logs or in bushes along water's edge
Queen Snake	<i>Regina septemuitata</i>	Found in or along streams or small impoundments of streams which have areas of low, overhanging branches for basking
Rough Green Snake	<i>Opheodrys aestivus</i>	Found among shrubs and overhanging vegetation around lakes and streams; forest edges or in fairly open forests
Timber Rattlesnake ¹	<i>Crotalus horridus</i>	Moderately steep, rocky ridge tops with light ground cover; also sphagnum swamps, agricultural fields and second growth clearings; old buildings
Notes: 1 = see discussion in text 2 = species confirmed within the Mt. Pisgah Developed area		

4.3.5 Threatened and Endangered Species

Federally Listed Threatened and Endangered Species

The only federally listed species that is known to occur in the project area is the endangered Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*). According to the USFWS, the Carolina northern flying squirrel “shows a relict distribution and tends to occupy rather small and potentially vulnerable islands of high elevation habitat”. The Carolina northern flying squirrel has most commonly been captured in conifer-hardwood forests comprised of spruce and fir, with beech, yellow birch, sugar maple, red maple, hemlock, and black cherry (USFWS, 1990). Individuals have also been captured in riparian hemlock-hardwood-rhododendron forests. The Carolina northern flying squirrel is vulnerable to human impacts such as habitat destruction, fragmentation, or alterations associated with the clearing of forests; recreational and residential development; introduced exotic pests; and pollution (USFWS, 1999).

All of the above tree species are present in the Mt. Pisgah area. However, there are pockets of habitat that consist primarily of spruce, fir, hemlock, and yellow birch. Northern flying squirrels have been captured primarily from this type of vegetation, especially where this type of vegetation consists of widely spaced mature trees with an abundance of standing and downed snags. Pockets of this type of habitat are located in the picnic area, Loop C of the campground, along the trail between the Mt. Pisgah trail and the picnic area, along the trail between the picnic area and the campground, and on the east side of the Parkway in several sections between the Parkway and the Buck Springs Trail. One northern flying squirrel was captured in a live trap in the picnic area during the summer of 2001. In addition, the acidic cove community in the Mt. Pisgah Developed Area consists primarily of riparian hemlock-hardwood-rhododendron forest, which represents additional potential habitat.

There are historic records for the endangered eastern cougar (*Felis concolor cougar*) from the Mt. Pisgah area. The cougar’s decline has been attributed primarily to pressure from hunting as well as land development. In the late 1800’s the cougar was reported as extirpated. In 1910, and again in the 1970’s and 80’s there have been several unconfirmed sightings and scat in the area of Mt. Pisgah. There have been recent cougar sightings within the Mt. Pisgah Developed Area by Pisgah Inn staff and Parkway maintenance employees. Some biologists suggest that these cougars have been raised in captivity and then released.

Although the wetland within the site represents potential habitat for the mountain sweet pitcher plant (*Sarracenia jonesii*) (endangered) and the bog turtle (*Glyptemys muhlenbergii*) (threatened due to similarity of appearance), extensive surveys of the wetland have failed to document the occurrence of either of these species. Surveys of the remainder of the project area conducted by National Park Service biologists have failed to document the occurrence of any additional federally listed species within the project area.

Federal Species of Concern

Federal Species of Concern that have been confirmed from the project area include the saw-whet owl (*Aegolius acadicus acadicus*), Appalachian cottontail (*Sylvilagus obscurus*), olive-sided flycatcher (*Contopus cooperi*), cerulean warbler (*Dendroica cerulea*), southern Appalachian black-capped chickadee (*Pocile atricapilla practica*), and fraser fir (*Abies fraseri*). Fraser fir was apparently planted in the project area and is not established as a natural population at the site (Pittillo and Green, 2000).

Historical records exist for yellow-bellied sapsucker (YBS) and Appalachian Bewick's wren at Mt. Pisgah. Surveys in 2003 for YBS failed to document the occurrence of this species at the site. The last known breeding site for Appalachian Bewick's wren was at Mt. Pisgah. It is likely extirpated from the site since no observations have been made in recent years.

State Listed Species

Additional species listed only by the State of North Carolina that have been confirmed from the project area include the golden-crowned kinglet (*Regulus satrapa*), timber rattlesnake (*Crotalus horridus horridus*), sticky bog asphodel (*Tofieldia glutinosa*), bog goldenrod (*Solidago uliginosa*), roan rattlesnake root (*Prenanthes roanensis*), cuthbert's turtlehead (*Chelone cuthbertii*), granite dome bluet (*Houstonia longifolia* var. *glabra*), plains sunrose (*Helianthemum bicknellii*), least moonwort (*Botrychium simplex* var. *simplex*), pinkshell azalea (*Rhododendron vaseyi*), and American fly honeysuckle (*Lonicera canadensis*). In addition, three Watch List species [red-breasted nuthatch (*Sitta Canadensis*), tawny cottongrass (*Eriophorum virginicum*), and mountain St. John's-wort (*Hypericum buckleyi*)] also have been confirmed in the project area.

4.3.6 Depletable Resources

Numerous mineral resources are known to exist in Haywood and Transylvania counties, including copper, corundum, kaolin, limestone, mica, and manganese (Carolina Geological Society, 1991). However, no mining is currently being conducted in the vicinity of the site.

The principal natural resource in the site vicinity is the wood harvested from the adjacent Pisgah District of the Pisgah National Forest. Approximately 146,000 cubic feet of timber was harvested from the Pisgah District in fiscal year 2002 (Blanton, 2002).

One active groundwater well is in the vicinity of the site. This well, which is near the south end of campground Loop C, provides the Mt. Pisgah Developed Area with drinking water. An additional inactive well is near the north end of Loop B. The depth to groundwater in the site vicinity is approximately 400 feet.

Surface water downstream of the site is utilized by the City of Canton (population 3,783) for drinking water. The intake for this water system is on the Pigeon River, approximately 18 miles downstream of the sewage treatment plant on the northwestern edge of the site.

4.3.7 Presence of Hazardous Substances or Contamination

The only known hazardous material sites in the vicinity of the proposed action are five underground storage tanks (USTs) within the Mt. Pisgah Developed Area. These consist of four 3000-gallon gasoline tanks at the service station and a 1000-gallon fuel oil tank near the Pisgah Inn office. All five of these tanks are in compliance with U.S. EPA and North Carolina environmental regulations. There are no records of leaks from any of the tanks (O'Connell, 2002).

4.4 Socio-economics and Employment

4.4.1 Commercial Activities and Employment

Other than the Pisgah Inn and associated facilities within the Mt. Pisgah Developed Area, there is no commercial activity in the vicinity of the site. The nearest towns are Canton (population 3,783), approximately 18 miles west of the site in Haywood County, and Brevard (population 7,112), approximately 15 miles east in Transylvania County.

Haywood and Transylvania counties have a diverse economy, including manufacturing, tourism, and agriculture. The median age of the population is 42.3 years in Haywood County and 43.9 in Transylvania County. The median per capita income in 1999 was \$18,554 and \$20,767, respectively. The unemployment rate for 2000 was 2.6% in Haywood County and 2.7% in Transylvania County (U.S. Census).

4.4.2 Housing

In 2000, the population of Haywood County occupied 28,640 housing units, with 15,553 units occupied in Transylvania County. The median value of owner-occupied units in 2000 was \$99,100 in Haywood County and \$122,300 in Transylvania County (U.S. Census). Housing units within the site consist of dormitories for 30 employees in use from April to November. There are no other housing units in the vicinity.

4.5 Cultural Resources

4.5.1 Historic Resources

Historic resources in the vicinity of the site consist of the Parkway itself and associated features, which together are potentially eligible for inclusion on the National Register of Historic Places. Construction of the Parkway started in 1935. The 469-mile linear reservation linking Shenandoah National Park in Virginia with Great Smoky Mountains National Park in North Carolina was the first long-distance, rural parkway developed by the National Park Service. The Blue Ridge Parkway has undergone documentation for the Historic American Engineering Record (HAER). The Mt. Pisgah Campground is also documented as part of the resulting HAER report (Quin, 1997).

The Old Pisgah Inn, which once stood at the campground, is no longer standing although one small cabin from the Inn complex is still extant. The Old Pisgah Inn complex appears on a 1946 master plan map for the Blue Ridge Parkway.

The NPS is currently conducting a Cultural Landscape Inventory, which will document the cultural landscape history of the entire Mt. Pisgah Developed Area.

4.5.2 Archaeological Sites

A Phase I Archaeological survey of the areas which would be affected by the proposed action was conducted in July, 2003. Test pits were excavated at 20-meter intervals along the routes of the proposed utility corridors. No archaeological sites were found during the course of the survey. The survey report is attached as Appendix C of this document.

4.6 Recreational Resources

The Parkway contains numerous recreational facilities, including 900 vistas, 275 paved overlooks, 18 recreational areas, and 14 backcountry areas. Over 20 million visitors use the Parkway annually, making it the most highly visited unit in the National Park system. The primary activities are recreational driving, sight seeing, and hiking. The National Park Service also provides naturalist walks and lectures, self-guided nature trails, roadside exhibits, picnicking, and camping.

There are several scenic overlooks in the vicinity of the site, as well as over a dozen hiking trails ranging in length from 0.7 to 2.8 miles. The nearby Pisgah District of the Pisgah National Forest contains four campgrounds, four picnic areas, the Cradle of Forestry in America Visitor Center and Museum, and the Laurel Mountain backcountry area, which has 13 miles of hiking trails.

The site itself contains a 52-room inn, restaurant, camp store, gas station, and gift shop, as well as several hiking trails, a picnic area, and a campground with 137 sites. The National Park Service presents evening interpretive programs during the summer at an amphitheater within the campground.

4.7 Visual Resources

The Blue Ridge Parkway has extensive scenic resources, as it was constructed on the crest of mountain ridges for its entire length. There are numerous overlooks along the length of the road, allowing views of scenic wooded areas from high elevations. The eastern portion of the site, in the vicinity of the Pisgah Inn, contains a similar view. The western portion of the site, which includes the campground, contains a more limited view of the surrounding forest due to the flatter terrain.

4.8 Utilities and Services

4.8.1 Electricity and Other Energy

Electricity is supplied to the site by the Haywood Electric Membership Corporation. Electricity is provided through overhead lines. Liquid propane gas and fuel oil are used at the Pisgah Inn for hot water and heat. Both fuels are transported to the Inn by truck and placed in large storage tanks. There are currently no transmission or capacity problems with energy at the site (O'Connell, 2002).

4.8.2 Water

Drinking water for the site is supplied from an on-site well. The water is treated in the well house with soda ash and polyphosphate to prevent corrosion of water pipes. The water is also chlorinated with sodium hypochlorite solution. After treatment, the water is pumped to an underground concrete reservoir on the east side of the Parkway. The water flows by gravity from the reservoir to the Pisgah Inn and campgrounds. Approximately seven million gallons of water were treated by this system in fiscal year 1999 (Wilburn, 2002).

4.8.3 Sewage System

Sewage collected at the site flows by gravity through a network of sewer lines to a treatment plant at the northwestern portion of the site. This treatment plant, which is operated by the National Park Service, contains a contact basin, a treatment lagoon, and a dechlorinator. The treated sewage discharges into Pisgah Creek downstream of the campground and the wetland area.

5.0 ENVIRONMENTAL CONSEQUENCES

5.1 Introduction

The National Environmental Policy Act requires environmental documents to disclose: (1) the environmental impacts of proposed federal actions, (2) reasonable alternatives to that action, and (3) adverse environmental impacts that cannot be avoided should the proposed action be implemented. This section analyzes the environmental impacts of the three alternatives for the rehabilitation of Mt. Pisgah utilities on natural resources, socio-economics, cultural resources, recreational resources, visual resources, and utilities. This analysis provides the basis for comparing the effects of the three alternatives and is summarized in Table 7. The intensity and duration of the impacts, mitigation measures, cumulative impacts, and secondary impacts were assessed in considering the impacts.

5.2 Methodology

In this document, the NPS based its analysis of impacts and conclusions on discussions with the U.S Fish & Wildlife Service, Natural Heritage Program; on a review of scientific literature and park studies; and on professional judgment of park technical experts.

5.2.1 Thresholds of Change

Threshold events are marked by a distinct change in conditions or level. Although environmental thresholds are not events in themselves, data from extensive monitoring programs and more general sources of information indicate that thresholds of change may be identifiable for this project and that a practical means of monitoring proximity to thresholds is available. The thresholds of change of a biological or ecological impact are designated as *intensity* and *duration*.

Intensity. For the purpose of this analysis, intensity or severity of the impact to the resource or discipline is defined as:

- *Negligible* is barely perceptible, not measurable, and confined to a small area.
- *Minor* is perceptible, measurable, and localized.
- *Moderate* is clearly detectable and could have appreciable effect.
- *Major* is substantial and highly noticeable.

Duration. For the purpose of this analysis, duration of the impacts to the resource or discipline is defined as:

- *Short-term* are those that occur during implementation of the alternative.
- *Long-term* are those that extend beyond implementation of the alternative and would likely have permanent effects.

5.3 Cumulative Impacts

As defined by CEQ Regulations (40 CFR, Part 1508.7), "*cumulative impacts*" are those impacts on the environment resulting from the incremental impacts of the proposed, past, present, and foreseeable future actions regardless of who or what agency undertakes the actions. Cumulative impacts can result from minor but collectively significant actions taking place over time.

5.4 Impairment

Pursuant to the 1916 Organic Act, the NPS has a management responsibility "*to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*" As a result, the NPS cannot take an action that would "impair" park resources. NPS *Management Policies 2001* provide guidance on addressing impairment.

Impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be less likely

to constitute an impairment to the extent that it is an unavoidable result, which cannot reasonably be further mitigated, of an action necessary to preserve or restore the integrity of park resources or values (NPS 2000e). An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's *General Management Plan* or other relevant NPS planning documents.

For the Mt. Pisgah Utilities Rehabilitation Project, the Blue Ridge Parkway is the key resource for which impairment must be addressed. Impairment of park resources was evaluated on the basis of the type and intensity of impacts, and in terms of the types of resources affected. Overall, beneficial impacts will not constitute impairment. With respect to the intensity of impacts, negligible and minor adverse impacts are not of sufficient magnitude to constitute impairment. Moderate and major adverse impacts may constitute impairment, but do not automatically do so. Rather, these impacts must be analyzed with respect to the three bulleted criteria in the previous paragraph. In addition, when considering potential impairment of the Blue Ridge Parkway, not all resource topics have been analyzed. Impairment is considered for geologic, hydrological, biological, cultural, and scenic resources and recreation. However, analyses for air quality, noise, socio-economics, utilities, and park operations do not discuss impairment of the Blue Ridge Parkway because these resource topics are peripheral to the protection of the Blue Ridge Parkway, the intent of the 1916 Organic Act, and the *Management Policies 2001* impairment mandate.

Director's Order 12 requires that impairment be addressed in all environmental assessments and draft and final environmental impact statements, as well as in the decision documents (Finding of No Significant Impact, Record of Decision). Within this environmental assessment, impairment is addressed in the conclusion section of each impact topic under each alternative.

Consequently, the preferred alternative that is identified in any NPS action will not impair park resources and conserves values embodied in the Organic Act to:

- Accomplish the mission of the NPS.
- Achieve goals of the *Parkway Master Plan* and *Strategic Plan*.
- Prevent impairment of park resources in a manner that meets legal and policy requirements.
- Achieve the purposes and criteria of the following NPS Mission Goals, the Parkway's Mission Goals, and the Parkway's long-range GPRA goals:

- natural resources are protected to maintain ecological and biological diversity with the abundance of plant and animal species found in the central and southern Appalachian ecosystem;
- the natural and cultural resources are protected, restored, and maintained in good condition; and
- provide opportunities for visitors to experience the scenic qualities, recreational uses, and natural and cultural resources of the Blue Ridge Parkway and its corridor.

5.5 Alternative 1: No Action Alternative

The No Action Alternative maintains the status quo on Blue Ridge Parkway lands, as described in Section 4.0, *Affected Environment*, of this EA. It provides a baseline from which to compare the other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. Under the No Action Alternative, no management action would be taken to rehabilitate the utilities at Mt. Pisgah. The existing water and sewer systems would continue to be maintained without upgrade. The existing detrimental conditions would continue, including leakage from the drinking water lines, infiltration into the sewer lines, occasional sewage overflows, and release of untreated sewage into soil. The potential for adverse affects to the water quality of the wetland from sewage leaks would continue, and increase over time. The existing utility crossing of the wetland, the campsites adjacent to the wetland, and the social trails inside of the campground loops would continue to be used.

5.5.1 Natural Resources

Subsurface and Geological

Direct/Indirect Impacts:

Since no excavation would take place, this alternative would have no impact on any subsurface or geological conditions.

Cumulative Impacts:

No cumulative impacts are expected.

Impairment:

There would be no impairment to geology or soils under this alternative.

Conclusion:

Under the No Action Alternative there would be no impacts to geology or soils other than those that currently exist.

Topography and Wetlands

Direct/Indirect Impacts:

Under the No Action Alternative, the topography would not be impacted. However, the risk of potential sewage spills would likely increase with time as the aging sewer lines continue to

deteriorate. Sewage spills have the potential to adversely affect project area wetlands and streams by altering vegetative composition and degrading water quality. Southern Appalachian bogs are very acidic and nutrient-poor, and are dominated by species that are adapted to these conditions. Nutrient inputs associated with sewage leaks could potentially alter vegetative composition of the bog by favoring species (shrubs, trees, and/or nuisance species) that are less tolerant of nutrient-poor conditions. Schafale and Weakley (1991) list increased nutrient inputs as one of several possible causes of accelerated tree and shrub invasions that are occurring in many examples of this community type. These invasions threaten to close the bogs and eliminate many of the herbaceous species.

Cumulative Impacts:

The potential for erosion from the campgrounds affecting the wetland would continue unchanged. The risk of potential sewage leaks and negative impacts to the wetland would likely increase with time.

Impairment:

There would be no impairment to wetlands under this alternative.

Conclusion:

Under this alternative, the potential for sewage leaks into the wetland would continue and gradually increase over time. These leaks could potentially alter the vegetative composition of the bog by favoring species that are less tolerant of the existing nutrient-poor conditions. These tree and shrub invasions could potentially close the bog and eliminate many of the herbaceous species.

Vegetation and Wildlife

Direct/Indirect Impacts:

The No Action Alternative would not have any direct impact on project area vegetation or wildlife. However, as discussed under wetlands, potential sewage leaks could affect vegetation as well as the animal species that utilize the wetland. Aquatic fauna in particular (i.e., fish, amphibians, and benthic macroinvertebrates) could be adversely affected by changes in water quality from sewage leaks. Increased nutrient inputs can lead to excessive algal growth and depletion of dissolved oxygen, resulting in adverse impacts to aquatic fauna.

Cumulative Impacts:

Other than the impacts from potential sewage spills discussed under wetlands, vegetation and wildlife would remain unchanged from the current conditions. The potential disturbance of wetland vegetation and wildlife from activities at the adjacent campsites would continue.

Impairment:

There would be no impairment to vegetation and wildlife under this alternative.

Conclusion:

Under the No Action Alternative there would be no impacts to vegetation and wildlife other than the potential negative impacts from potential sewer leaks discussed under wetlands.

Endangered Species

Direct/Indirect Impacts:

The No Action Alternative would not have any direct impact on project area vegetation or wildlife. However, as discussed under wetlands, potential sewage leaks could affect several rare species (sticky bog asphodel, bog goldenrod, and tawny cottongrass) that are found in the wetland associated with Pisgah Creek. Nutrient increases associated with sewage leaks could cause accelerated tree and shrub invasion that is occurring in many examples of Southern Appalachian bogs. Since maintenance of the open, herb-dominated patches is critical for survival of the rare plant species that occur in the bog, accelerated increases in shrub and tree cover could threaten their continued survival.

Cumulative Impacts:

Other than the impacts from potential sewage spills discussed under wetlands, no cumulative impacts are expected.

Impairment:

There would be no impairment to endangered species under this alternative.

Conclusion:

Under the No Action Alternative the potential for sewage leaks would continue and gradually increase over time. These leaks could potentially alter the vegetative composition of the bog by favoring species that are less tolerant of the existing nutrient-poor conditions. These tree and shrub invasions could negatively impact the sticky bog asphodel, bog goldenrod, and tawny cottongrass currently found in the wetland.

Depletable Resources

Direct/Indirect Impacts:

Taking no action would have no impact on depletable resources. The existing use of timber, groundwater, and surface water in the vicinity of Mt. Pisgah would continue.

Cumulative Impacts:

The use of groundwater would slightly increase, as leakage from the aging water system would gradually increase over time.

Impairment:

There would be no impairment to depletable resources under this alternative.

Conclusion:

Under the No Action Alternative there would be no impacts to depletable resources other than those that currently exist.

5.5.2 Socio-economics and Employment

Direct/Indirect Impacts:

Under this alternative, existing commercial activities at the Mt. Pisgah Developed Area and surrounding area would continue. There would be no impact to the commercial activity, employment, or housing in the site vicinity.

Cumulative Impacts:

No cumulative impacts are expected.

Impairment:

There would be no impairment to commercial activity, employment, or housing under this alternative.

Conclusion:

Under the No Action Alternative there would be no impacts to park resources.

5.5.3 Cultural Resources

Direct/Indirect Impacts:

Under this alternative, no excavation would be conducted, and any potential archaeological resources would remain undisturbed. All historic resources would continue to be maintained in their present condition.

Cumulative Impacts:

All cultural resources would continue to be maintained in their present condition. The NPS is currently conducting a Cultural Landscape Inventory, which will document the cultural landscape history of the entire Mt. Pisgah Developed Area.

Impairment:

There would be no impairment to park cultural resources under this alternative.

Conclusion:

As discussed in Section 4.5.2, no archaeological artifacts and/or features were observed or recovered in any of the shovel test pits during the archaeological evaluation. Under this alternative, no excavation would be conducted, and any potential archaeological resources would remain undisturbed. Therefore, no impacts to archaeological resources are anticipated under Alternative 1. In addition, under Alternative 1, all historic resources would continue to be maintained in their current condition; therefore, there would not be any affect to historic properties or cultural landscapes.

5.5.4 Recreational Resources

Direct/Indirect Impacts:

Under this alternative, the existing conditions would remain. The maintenance problems and social trails associated with the campground drinking fountains would continue.

Cumulative Impacts:

All recreational resources would continue to be maintained in their present condition. Future maintenance of the campground water system, which would become more frequent as it ages, would require more frequent shutdown of the entire system.

Impairment:

There would be no impairment to recreational resources under this alternative.

Conclusion:

Under the No Action Alternative there would be no impacts on recreational resources other than those that currently exist.

5.5.5 Visual Resources

Direct/Indirect Impacts:

Under this alternative, the existing conditions would remain. The existing appearance of the utility crossing and campgrounds would be unchanged.

Cumulative Impacts:

The maintenance problems at the campground drinking fountains would continue to periodically affect visual resources.

Impairment:

There would be no impairment to visual resources under this alternative.

Conclusion:

Under the No Action Alternative there would be no impacts on visual resources other than those that currently exist.

5.5.6 Utilities and Services

Direct/Indirect Impacts:

Existing usage of energy would continue. The current condition of the water and sewer systems, which are in violation of current North Carolina drinking water regulations regarding separation of water and sewer lines, would continue.

Cumulative Impacts:

The water and sewer systems would continue to be maintained in their present condition. Future

maintenance of the campground water system, which would become more frequent as it ages, would require more frequent shutdown of the entire system.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

Under the No Action Alternative there would be no impact on utilities.

5.5.7 Conclusion for Alternative 1

Under the No Action Alternative, all facilities in the Mt. Pisgah Developed Area would continue to be maintained in their current condition. The existing maintenance problems, including leakage of drinking water and sewage into the soil, infiltration into the sewer lines, and maintenance of the campground drinking fountains would continue. The potential for overflows of sewage from manholes and the wastewater treatment plant lagoon into Pisgah Creek would continue and increase over time as the sewage system ages. These potential sewage leaks could potentially alter the vegetative condition of the wetland and negatively impact the plants and animals, including three rare plant species, which currently utilize this wetland. Under this alternative, there would be no impairment to park resources.

5.6 Alternative 2: Proposed Action

Under this alternative, various actions to rehabilitate the utilities in the Mt. Pisgah Developed Area would be undertaken. The majority of the existing water and sewer lines affected would be abandoned in-place. In addition, a steel footbridge would be constructed over the wetland, seven campsites adjacent to the wetland would be removed, and the access road to the sewage treatment plant would be repaved.

5.6.1 Natural Resources

Subsurface and Geological

Direct/Indirect Impacts:

The proposed utility rehabilitation would include trench excavation, but the majority of the trenches would be excavated in previously disturbed areas. Typical excavation depth would be 40 inches and the average width would be 5 feet. Potential negative short-term impacts could be mitigated if steps are taken to control runoff and prevent erosion. These measures might include: minimizing the soil area exposed; protecting soil with mulch or vegetative cover; erecting silt fences; and reducing the volume or speed of runoff to minimize sediment carried off the site. Due to the shallow depth of excavation, it is unlikely that any potential mineral resources would be encountered.

Cumulative Impacts:

The potential for erosion from the campgrounds affecting the wetland would be reduced by removal of the seven campsites adjacent to the wetland.

Impairment:

There would be no impairment to geology or soils under this alternative.

Conclusion:

There is a slight potential for negative impacts from erosion during construction, which could be mitigated by utilizing standard erosion control measures.

Topography and Wetlands***Direct/Indirect Impacts:***

The proposed action would have no impact on the topography, other than the removal of some earthen fill from the wetlands. This would be the only earthmoving other than trench excavation. All footings for the bridge would be installed outside of the wetland area. There would be no staging in the wetland during construction. Removal of the existing fill and concrete utility support piers from the wetland and relocation of the utility lines to the underside of the bridge support structure would have a positive impact, restoring the natural water flow to the area. Demolition of the seven campsites would reduce the potential for erosion from these areas into the wetland, as well as restore the natural flow of surface runoff, which is currently disrupted by tent pads and parking slips.

Replacement of the utility lines would decrease the potential for sewage leaks and the associated potential adverse impacts on wetlands and water quality. Removal of the fill and culvert would be expected to restore more typical bog vegetation to the area immediately beneath the new bridge and sewer line crossing.

As this project would involve work inside of a wetland area, a permit would be required from the U.S. Army Corps of Engineers. A permit for an earlier version of this project (that was never initiated), which also involved removal of fill from the wetland and construction of a bridge, was granted in 1998. Due to the length of time and the regulatory changes since the original permit was granted, a new permit would be required. Projects such as the proposed action generally qualify for a nationwide permit, which requires actions such as erosion control measures, protection of water quality, vegetation, and aquatic life, and notification of any affected endangered species habitats (Baker, 2003).

Cumulative Impacts:

Construction of the bridge would be expected to reduce vegetation disturbance associated with unauthorized foot traffic across the wetland. The removal of campsites adjacent to the bog would also be expected to decrease the potential for human disturbance of the wetland vegetation.

Impairment:

There would be no impairment to wetlands under this alternative.

Conclusion:

Under this alternative, the impacts to the wetland would be positive, restoring a more natural water flow and reducing the potential for human disturbance. A permit from the Army Corps of Engineers would be required.

Vegetation and Wildlife***Direct/Indirect Impacts:***

Construction activities would take place primarily within existing utility line corridors, where the vegetation is currently disturbed due to regular vegetation maintenance procedures. Approximately 1000 feet of new sewer and water line corridors would be constructed in the high elevation red oak forest community type within and adjacent to the campground. These corridors would be placed in existing paths where possible and would avoid large trees. Approximately 6000 feet of new water and sewer lines would be placed in existing utility corridors within the high elevation red oak forest community type. The remainder of new and replacement line corridors would be located within road shoulders and other maintained grassy or paved areas, and consequently, would have no direct impact on natural communities.

Construction would require the removal of all vegetation from the 1000 feet of new corridors that occur in the high elevation red oak forest community. At a width of 15 feet, the 1000 feet of new corridors would impact approximately 0.3 acre of this habitat type. The 6000 feet of existing utility line corridors that occur within high elevation red oak forest communities do not contain mature trees. However, construction would be expected to require the removal of some trees along the margins of these existing corridors. Consequently, construction within the existing corridors would also impact a small area of high elevation red oak forest. With the consolidation of water and sewer lines into a single corridor, numerous segments of existing corridors would be abandoned and allowed to revegetate. Succession to mature high elevation red oak forest in the abandoned corridors would eventually offset the impacts associated with the new lines. The high elevation northern red oak forest community is abundant throughout the Mt. Pisgah area, and is ranked by the NCNHP as “demonstrably secure in North Carolina and essentially ineradicable under present conditions.”

The new bridge and sewer line would span the wetland crossing without placing any pilings or fill in wetlands. Vegetation at the crossing has been disturbed and altered by the fill and culvert that were inserted for the existing sewer line. Removal of the fill and culvert would be expected to restore more typical bog vegetation to the area immediately beneath the new bridge and sewer line crossing. Construction of the bridge would be expected to reduce vegetation disturbance associated with unauthorized foot traffic across the bog area.

Due to the abundance of alternative habitat in the project area, wildlife that occur in the high elevation red oak forest are not likely to be adversely affected by the loss of small areas of this forest habitat. The high elevation red oak forest community is abundant throughout the Mt. Pisgah area. Forest impacts would occur in areas that are already fragmented by existing roads, utility corridors, paths, and buildings associated with the Mt. Pisgah developed Area. Although the decline of neo-tropical migrants is frequently associated with habitat fragmentation, some

species benefit from the establishment of edge and early successional habitats (Simons et al. 1998). The long-term impact of any tree removal would be offset by the revegetation of several utility corridors that would be abandoned.

Cumulative Impacts:

The removal of campsites adjacent to the bog would be expected to decrease the potential for human disturbance of the bog vegetation, and the replacement of aging sewer lines would be expected to decrease the potential for sewage leaks and the associated adverse impacts on vegetation. When use of the campsites is eliminated, there is a potential for visitors to walk across the former to reach the wetland. Several years ago when the NPS removed three Loop C campsites that were adjacent to the wetland, there was little if any use of the sites to access the wetland. Based on past experience, the NPS does not expect indirect impacts of this nature. If such use does occur, it could be managed by installing a fence or other physical barrier, signing, and increasing ranger patrols through the area.

Impairment:

There would be no impairment to vegetation and wildlife under this alternative.

Conclusion:

This alternative would require the removal of vegetation from approximately 0.3 acre of high elevation red oak forest. However, succession to mature high elevation red oak forest in the abandoned utility corridors would eventually offset the impacts associated with the new lines. Impacts to wetland vegetation and wildlife would be positive, as a result of restoring more natural water flow and reducing the potential for human disturbance.

Endangered Species

Direct/Indirect Impacts:

Replacement of utility lines in forested areas would be expected to require the removal of some trees along the margins of the existing corridors. The construction of new utility line corridors would require the removal of all trees within the 0.3 acres comprising the proposed corridors. These impacts would occur in areas mapped as northern red oak forest, which represents potential habitat for the Carolina northern flying squirrel (NFS). As a result of informal consultation with the USFWS, the NPS has agreed to evaluate each tree identified for removal for Carolina flying squirrel nesting activity. If nesting activity is observed in any trees that would be impacted by the project, then all project activity would cease, and the NPS would reopen consultation with the USFWS to determine the appropriate course of action.

Surveys for northern flying squirrels can be conducted any time of year. Searches include using a camera placed on a telescoping pole (up to 60 feet) to peer into cavities within the tree. Nests used by NFS are distinctive and can be identified at any time of year. However, because locating cavities and holes in the tree is much easier during leaf-off and access during the winter is difficult, early spring or late fall would be the best time to conduct these surveys.

The Proposed Action would not impact the southern Appalachian bog community, and consequently, would not affect the listed species known to occur or to potentially occur in this area. As discussed under wetlands, this action would have a positive impact to any species utilizing the wetland.

The Roan rattlesnake root is known to occur in existing utility line easements just below the travel-trailer dumpsite and in Loop A, and in additional open woods borders of the picnic area. Consequently, the Roan rattlesnake root may be adversely affected by the Proposed Action. However, Pittillo and Green (2000) describe the Roan rattlesnake root as a species that probably is favored by soil disturbance, and consequently, as a species that would potentially benefit from continuing soil disturbance in the utility line corridors. The remaining listed plant species known from the project area are restricted to bog, seepage, or cliff habitats that would not be adversely affected by the Proposed Action.

Due to the abundance of alternative habitat in the project area, additional listed animal species that occur or potentially occur in the high elevation red oak forest are not likely to be adversely affected by the loss of small areas of this habitat. The high elevation red oak forest community is abundant throughout the Mt. Pisgah area, and is ranked by the NCNHP as “demonstrably secure in North Carolina and essentially ineradicable under present conditions.”

Cumulative Impacts:

None expected other than the positive impacts previously discussed under wetlands.

Impairment:

There would be no impairment to endangered species under this alternative.

Conclusion:

This alternative is expected to require the removal of some trees in areas that are potential habitat for the Carolina northern flying squirrel. As a result of informal consultation with the USFWS, the NPS has agreed to evaluate each tree identified for removal for Carolina flying squirrel nesting activity. If nesting activity is observed in any trees that would be impacted by the project, then all project activity would cease, and the NPS would reopen consultation with the USFWS to determine the appropriate course of action.

Depletable Resources

Direct/Indirect Impacts:

Although there is a possibility of mineral resources in the site vicinity, its location inside a national park makes it extremely unlikely that any minerals would be mined in the near future. No impacts to timber harvesting in the Pisgah National Forest are expected.

The proposed action would have a positive impact on groundwater, as the excess water currently withdrawn from the wells, treated, and lost back into the soil due to system leakage (approximately 300,000 gallons per month) would remain in the aquifer. In addition, the leakage of untreated sewage into the substrate and potentially into the groundwater would be eliminated. The surface

water downstream of the site would be positively impacted, as the possibility of sewer overflows into Pisgah Creek would be greatly reduced.

One unavoidable impact is the use of resources. Materials and energy would be used during construction of the project. The short-term increase in energy would be more than offset by the long-term savings resulting from decreased pumping requirements for the water and sewer systems.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to depletable resources under this alternative.

Conclusion:

Under this alternative there would be a positive impact to depletable resources from reduced use of groundwater.

Presence of Hazardous Substances or Contamination

Direct/Indirect Impacts:

There is a slight potential that contaminated soil may be uncovered during excavation of the utility lines near the service station. However, there are no records of releases from these tanks. Any contaminated soil would be removed and/or treated in accordance with U.S. EPA and North Carolina regulations.

The majority of the existing water lines are constructed of asbestos-cement pipe. Small sections of the water line in the west shoulder of the Parkway may need to be removed due to space constraints.

This material must be disposed of in a permitted landfill in accordance with U.S. EPA and North Carolina regulations.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

Under this alternative there would be no impact to park resources from hazardous substances or contamination.

5.6.2 Socio-economics and Employment

Direct/Indirect Impacts:

The proposed action would have a minor positive direct impact on both commercial activity and employment in the site vicinity. During construction of the project, a number of short-term construction jobs would be created. Indirect positive impacts to the local economy would be generated by the purchase of materials and expenditure of dollars by the construction work force. Construction of the new water line between the restaurant area and Loop A would allow future repairs or maintenance on water lines to be accomplished without shutting down the entire campground water system (which requires closure of the campground). This would eliminate the negative economic impacts resulting from turning away campers from the site.

The project would require temporary closure of the Pisgah Inn, restaurant, picnic area, employee dormitories, and campgrounds at various times during construction. This would have a short-term negative impact on commercial activity and housing, and a temporary loss of employment at the Pisgah Inn and restaurant. This impact could be minimized by conducting as much work as possible during the off-season (November-April).

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

Under the proposed action there would be a slight positive impact to commercial activity. Potential short-term negative impacts can be minimized by scheduling as much work as possible during the off-season.

5.6.3 Cultural Resources

Direct/Indirect Impacts:

In accordance with Section 106 of the NHPA, a cultural resources investigation was conducted in the project area and consultation and comment were solicited from the North Carolina State Historic Preservation Officer (SHPO). As discussed in Section 4.5.2, no archaeological artifacts and/or features were observed or recovered in any of the shovel test pits during the archaeological evaluation. Therefore, no effects on archaeological resources are anticipated under Alternative 2.

Approximately 75% of the Cultural Landscape Inventory has been prepared for the Pisgah area (including the campground, picnic area, overlook, inn and district). Based on these preliminary documents, it appears that the majority of resources affected by this work (in the campground) are not yet considered historic, and therefore, not eligible for National Register listing on their own. The campground and its features date to circa 1968, making them less than 50 years old. There was an historic campground in the area prior to the 1960s improvements, but it is unclear from the documentation if any of this remains and/or would be significant in its own right. However, the

existing campground does contribute to the larger Pisgah District, and if its integrity remains, may be considered historic in the next few years as it approaches the 50 year mark. Care would be taken under this alternative to document the existing conditions prior to removal and/or alterations of features pending any future determination of historic significance (Stakely, 2003).

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36CFR Part 800.5, *Assessment of Adverse Effects*), the NPS concludes through an internal Section 106 programmatic agreement that implementation of the preferred alternative would have *no adverse effect* on cultural resources on the Blue Ridge Parkway (see Appendix D). In addition, no further archaeological work is recommended for the project site.

Cumulative Impacts:

Since Alternative 2 would not affect archaeological resources, historic properties, or cultural landscapes, this alternative would not contribute to cumulative impacts on these resources.

Impairment:

Under this alternative, there would be no impairment to park cultural resources.

Conclusion:

Alternative 2 would not directly, indirectly, or cumulatively affect any archaeological resources, historic properties, or cultural landscapes. No impairment of the Park's cultural resources would occur under Alternative 2. The potential historical significance of the historic cabin remaining from the Old Pisgah Inn complex would also be unaffected by this alternative as none of the proposed work will be near the cabin.

5.6.4 Recreational Resources

Direct/Indirect Impacts:

The proposed action would have a direct positive impact to recreation. Replacing the utility crossing with a bridge would restore the natural appearance of the area, and allow a vantage point for interpretive programs about wetlands. Removal of the drinking fountains and social trails within the campground loops would allow revegetation of the areas between campsites, resulting in an improved setting for campground visitors.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to recreational resources under this alternative.

Conclusion:

Under this alternative, impacts on recreational resources would be positive.

5.6.5 Visual Resources

Direct/Indirect Impacts:

There would be a minor positive impact to the appearance of the vicinity of the wetland due to the removal of seven campsites and replacing of the utility crossing with a bridge. Removal of the drinking fountains and social trails within campground Loops A and B would allow revegetation of the areas around the campsites, which would be a positive long-term impact on the local setting. The vista from the Pisgah Inn area would be unchanged.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to visual resources under this alternative.

Conclusion:

Under this alternative, impacts on visual resources would be positive.

5.6.6 Utilities and Services

Direct/Indirect Impacts:

The proposed action would save the approximately 300,000 gallons per month of treated drinking water that currently is lost to leakage. In addition, the groundwater that currently infiltrates into the sewer pipes would no longer be treated in the sewage treatment plant. This would result in a decrease in energy use by the pumps and other water treatment equipment. No impact to the fuel oil or propane systems is expected.

The proposed action would have a substantial positive impact to the drinking water and sewage systems at the site. The large volume of treated drinking water lost to leakage each month would be eliminated. The system would be brought into compliance with current North Carolina drinking water regulations requiring a minimum distance between drinking water and sewage lines. The risk of exposure of visitors to potentially contaminated drinking water would be eliminated. The infiltration of groundwater into the sewer lines would be eliminated, as well as the associated problems with overflowing manholes and overloads at the sewage treatment plant.

Cumulative Impacts:

The new water line would allow future maintenance and repair of the campground water system to be accomplished without shutting down the entire system and closing the campground.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

The impact of this alternative to the water and sewer systems would be positive. The current problems with leakage, infiltration and sewage overflows would be eliminated. The amount of

electricity used would decrease.

5.6.7 Conclusion for Alternative 2 – Environmentally Preferred Alternative

The proposed action would produce some minor negative impacts during construction, including noise and air pollution from vehicles and equipment, as well as the potential for erosion. These impacts can be minimized by compliance with air and noise regulations, as well as implementing standard erosion control practices. Long-term impacts to wetlands, wildlife, and groundwater would be positive. This alternative would involve disturbance of vegetation along approximately 1000 feet of new utility corridors within or adjacent to the campground. Vegetation adjacent to an additional 6000 feet of existing utility easements would also be affected. The long-term impact of any tree removal would be offset by the revegetation of several utility corridors that would be abandoned. As the disturbance of this vegetation has the potential to impact the habitat of the Carolina northern flying squirrel, the NPS has agreed to evaluate each tree identified for removal for squirrel nesting activity. If nesting activity is observed in any trees that would be impacted by the project, then all project activity would cease, and the NPS would reopen consultation with the USFWS to determine the appropriate course of action.

Socio-economic impacts would be generally positive. Construction would have a short-term positive economic effect, and retail activity nearby would be positively affected. A short-term negative impact to the economy would be caused by closure of the Pisgah Inn and portions of the campgrounds during construction. Long-term impacts to recreational resources would be positive due to the improvement to the public amenities and infrastructure. Impacts to visual resources would also be positive.

There would be no adverse effects to cultural (historic) resources in this area. A Cultural Landscape Inventory is currently underway for Mt. Pisgah that will document the cultural landscape history for the developed area, including the campground. Until this is complete, the Park Service would not make too many changes to the cultural landscape until it is more completely documented and the historical value of individual features is clear. No impact to archaeological resources is expected, as none were found during the cultural resources survey completed as part of this assessment.

Under this alternative, there would be no impairment to park resources.

5.7 Alternative 3: Replace Water and Sewer Lines in Existing Locations

This alternative is similar to Alternative 2, except that all new utility lines would be placed in the same location as the existing lines, so no additional land areas would be disturbed. The new water line would not be constructed, and the drinking fountains inside of the campgrounds would not be replaced.

5.7.1 Natural Resources

Subsurface and Geological

Direct/Indirect Impacts:

The impact of this alternative would be similar to Alternative 2. The potential short-term negative impact would be slightly less, as approximately 1000 fewer feet of trench excavation would be involved.

Cumulative Impacts:

The potential for erosion from the campgrounds affecting the wetland would be reduced by removal of the seven campsites adjacent to the wetland.

Impairment:

There would be no impairment to geology or soils under this alternative.

Conclusion:

There is a slight potential for negative impacts from erosion during construction, which could be mitigated by utilizing standard erosion control measures.

Topography and Wetlands

Direct/Indirect Impacts:

The impact of this alternative would be the same as for Alternative 2.

Cumulative Impacts:

The impact of this alternative would be the same as for Alternative 2.

Impairment:

There would be no impairment to wetlands under this alternative.

Conclusion:

Under this alternative, the impacts to the wetland would be positive, restoring a more natural water flow and reducing the potential for human disturbance. A permit from the Army Corps of Engineers would be required.

Vegetation and Wildlife

Direct/Indirect Impacts:

Under this alternative, impacts to high elevation northern red oak communities would be limited to the margins of the existing utility corridors. These existing corridors do not contain mature trees. However, construction would be expected to require the removal of some trees along the margins of the corridors. Consequently, construction would impact a small area of high elevation northern red oak forest. Compared to Alternative 2, this alternative would be expected

to result in fewer impacts to mature trees. Since water and sewer lines would not be consolidated, none of the existing corridors would be abandoned and allowed to revegetate. Due to the abundance of alternative habitat in the project area, wildlife that occur in the high elevation red oak forest are not likely to be adversely affected by the loss of small areas of this habitat. The high elevation northern red oak forest community is abundant throughout the Mt. Pisgah area, and is ranked by the NCNHP as “demonstrably secure in North Carolina and essentially ineradicable under present conditions.” The benefits to the wetland vegetation from removing the existing utility crossing and placement of the bridge would be the same as Alternative 2.

Cumulative Impacts:

Cumulative impacts associated with wetland vegetation are the same as for Alternative 2.

Impairment:

There would be no impairment to vegetation and wildlife under this alternative.

Conclusion:

This alternative would require the removal of vegetation only from the edges of existing utility corridors. Impacts to wetland vegetation and wildlife would be the same as for Alternative 2.

Endangered Species

Direct/Indirect Impacts:

Potential impacts to the Carolina northern flying squirrel are similar to Alternative 2, but lessened, as fewer mature trees would be affected. Impacts to wetland species and the Roan rattlesnake root are the same as for Alternative 2.

Cumulative Impacts:

None expected other than the positive impacts previously discussed under wetlands.

Impairment:

There would be no impairment to endangered species under this alternative.

Conclusion:

This alternative is expected to require the removal of some trees in areas that are potential habitat for the Carolina northern flying squirrel. As a result of informal consultation with the USFWS, the NPS has agreed to evaluate each tree identified for removal for Carolina flying squirrel nesting activity. If nesting activity is observed in any trees that would be impacted by the project, then all project activity would cease, and the NPS would reopen consultation with the USFWS to determine the appropriate course of action.

Depletable Resources

Direct/Indirect Impacts:

The same as for Alternative 2.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to depletable resources under this alternative.

Conclusion:

Under this alternative there would be a positive impact to depletable resources from reduced use of groundwater.

Presence of Hazardous Substances or Contamination***Direct/Indirect Impacts:***

Similar to Alternative 2, although approximately 4,500 linear feet of additional asbestos-cement pipe will be generated.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

Under this alternative there would be no impact to park resources.

5.7.2 Socio-economics and Employment***Direct/Indirect Impacts:***

The same as for Alternative 2.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

Under this alternative there would be a slight positive impact to commercial activity. Potential short-term negative impacts can be minimized by scheduling as much work as possible during the off-season.

5.7.3 Cultural Resources

Direct/Indirect Impacts:

There would be no impacts to historic resources under this alternative, as the drinking fountains would remain in place. No impacts to archaeological resources are expected, as all excavation would take place in previously disturbed utility easements. If previously unknown archeological resources were discovered during construction, the project would be halted and additional data recovery excavations would be undertaken according to NPS procedures.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to park cultural resources under this alternative.

Conclusion:

There would be no adverse impacts to historic resources in this area. The NPS would not make too many changes to the cultural landscape until the Cultural Resource Inventory was completed and the historical value of individual features is clear.

5.7.4 Recreational Resources***Direct/Indirect Impacts:***

Impacts to the wetland area would be the same as for Alternative 2. The existing social trails and drinking fountains within the campgrounds would remain.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to recreational resources under this alternative.

Conclusion:

Under this alternative, impacts on recreational resources would be positive.

5.7.5 Visual Resources***Direct/Indirect Impacts:***

Impacts to the wetland area would be the same as for Alternative 2. The existing social trails and drinking fountains within the campgrounds would remain. The vista from the Pisgah Inn area would be unchanged.

Cumulative Impacts:

None are expected.

Impairment:

There would be no impairment to visual resources under this alternative.

Conclusion:

Under this alternative, impacts on visual resources would be positive.

5.7.6 Utilities and Services***Direct/Indirect Impacts:***

Impacts to utilities would be similar to Alternative 2.

Cumulative Impacts:

The new water line would not be constructed, so future maintenance and repair of the campground water system would continue to require shutting down the entire system and closing the campground.

Impairment:

There would be no impairment to park resources under this alternative.

Conclusion:

The impact of this alternative to the water and sewer systems would be positive.

5.7.7 Conclusion for Alternative 3 – Replace Water and Sewer Lines in Existing Locations

The temporary construction impacts of this alternative would be similar to Alternative 2, but slightly lessened, as approximately 1000 fewer feet of trench would be excavated. Long-term impacts to wetlands, wildlife, and groundwater would be positive.

The impacts from clearing of vegetation and the potential impacts to flying squirrel habitat would be similar to Alternative 2, but slightly lessened, as no new utility corridors would be cleared. As in Alternative 2, the NPS has agreed to evaluate each tree identified for removal for squirrel nesting activity. As the existing utility corridors would be used, the easements and social trails, which would be allowed to revegetate under Alternative 2, would remain unchanged under this alternative.

Socio/economic impacts would be similar to Alternative 2. Long-term impacts to recreational resources would be positive due to the improvement to the public amenities and infrastructure. However, the long-term benefits to recreation from relocating the water lines would not be achieved. The existing conditions associated with the drinking fountains and social trails within the campground loops would continue. Maintenance or repair to the campground water system would still require shutdown of the entire campground. Impacts to visual resources would be positive.

The impacts to cultural resources would be similar to Alternative 2, although slightly less, as the existing drinking fountains and associated social trails would not be removed. A Cultural Landscape Inventory is currently underway for Mt. Pisgah that will document the cultural landscape history for the developed area, including the campground. Until this is complete, The

NPS will not make too many changes to the cultural landscape until the Cultural Landscape Inventory is completed and the historical value of individual features is clear. No impact to archaeological resources is expected, as all excavation will take place in previously disturbed utility corridors.

Under this alternative, there would be no impairment to park resources.

Table 7 Comparison of Impacts of the Principal Alternatives

Environmental Issue	No Action	Alternative 2	Alternative 3
Natural Resources			
Subsurface and Geological	No Impact	Potential for erosion during construction; can be mitigated by erosion control measures	Same as Alternative 2
Topography and Wetlands	Potential for negative impacts would increase	Positive impact to wetland; potential negative impacts from sewage overflow eliminated; COE permit required	Same as Alternative 2
Vegetation and Wildlife	Potential for negative impacts would increase	Short-term loss of vegetation to clearing of utility corridors; offset by long-term revegetation of abandoned corridors; positive impact to wetland vegetation	Loss of small amount of vegetation from edges of utility corridors; positive impact to wetland vegetation
Endangered Species	Potential for negative impacts would increase	Potential negative impact to flying squirrel nesting sites; can be minimized by prior evaluation of nesting activity in all trees scheduled for removal	Similar to Alternative 2, but lessened, as fewer trees will be affected
Depletable Resources	Existing use would continue	Positive impacts to groundwater and downstream surface water use	Same as Alternative 2
Hazardous Substances	No Impact	Slight potential for contaminated soil near service station; small amount of asbestos-cement pipe waste would be generated	Similar to Alternative 2, except additional asbestos-cement pipe waste would be generated
Socio-Economics/Land Use			
Commercial Activities and Employment	No Impact	Temporary negative impact from closures during construction; this can be minimized by scheduling. Slight positive impact from expenditures during construction	Same as Alternative 2
Historic and Cultural Elements			
Historic Resources	No Impact	No adverse effects; changes will be limited until Cultural Landscape Inventory is completed	No adverse effects; changes will be limited until Cultural Landscape Inventory is completed
Archaeological Sites	No Impact	Minimal potential for disturbance of sites	No Impact

Recreational and Visual Resources			
Recreational Resources	Existing social trails, drinking fountains and wetland crossing would remain	Positive impacts to wetland crossing and campground	Positive impact to wetland crossing only
Visual Resources	Existing wetland crossing would remain	Positive impacts to wetland crossing and campground	Positive impact to wetland crossing only
Utilities and Services			
Electricity and Other Energy	Continued additional pumping to offset leakage and infiltration	Slight decrease in energy usage due to elimination of water leakage and infiltration and associated extra pumping costs	Same as Alternative 2
Water	Existing leakages would continue	System would be brought into compliance with current state regulations and leakage would be stopped. Future maintenance and repair work would not require shutdown of entire system and closing the campground	System would be brought into compliance with state regulations and leakage stopped
Sewer	Existing infiltration would continue	System would be brought into compliance with current state regulations. Leakage and potential sewage overflows stopped	Same as Alternative 2

6.0 MITIGATION OF UNAVOIDABLE IMPACTS

Mitigation measures are analyzed as part of the preferred action alternative. The following precautionary or resource mitigation measures would be taken to reduce the impact of the alternative.

Natural Resources

The proposed action would produce some minor negative impacts during construction, including noise and air pollution from vehicles and equipment, as well as the potential for erosion. These impacts can be mitigated by following local, state, and federal rules and regulations.

Cultural Resources

The NPS is currently conducting a Cultural Landscape Inventory, which would document the cultural landscape history of the entire Mt. Pisgah Developed Area. Until this is complete, the NPS will not make too many changes to the cultural landscape until it is more completely documented and the historical value of individual features is clear. The Park will adequately document all landscape features prior to any site work.

If previously unknown archeological resources are discovered during construction, all work in the immediate vicinity (600 feet) of the discovery will be halted until the resources can be identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with pertinent laws and regulations, including the stipulations of the 1995 *Programmatic Agreement Among the National Park Service (U.S. Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers*.

All workers will be informed of the criminal penalties for illegally collecting artifacts or intentionally damaging any archeological or historic property. Workers will also be informed of the correct procedures should previously unknown resources be uncovered during construction activities. Data recovery excavations will be carried out under NPS guidance to mitigate adverse affects.

After the project is underway, should unknown buried resources be located, the project will be halted and additional data recovery excavations will be undertaken. These subsurface survey and data recovery efforts will be guided by a project-specific research design either developed directly by NPS or approved by NPS. Additionally, the NPS will begin consultations under the Native American Graves Protection and Repatriation Act in the event that buried human remains and/or burial objects are discovered during archeological excavations or project development. The Superintendent will notify Parkway staff when work could be restarted.

Impacts to Federally Listed and Federal Concern Species

This alternative would involve disturbance of vegetation along 1000 feet of new utility corridors within or adjacent to the campground. The routes of these corridors would be chosen along existing foot paths where possible. Vegetation adjacent to an additional 6000 feet of existing utility easements also would be affected. The long-term impact of any tree removal would be offset by the revegetation of several utility corridors that would be abandoned. As the disturbance of this vegetation has the potential to impact the habitat of the Carolina northern flying squirrel, the NPS has agreed to evaluate each tree identified for removal for squirrel nesting activity. If nesting activity is observed in any trees that would be impacted by the project, then all project activity would cease, and the NPS would reopen consultation with the USFWS to determine the appropriate course of action.

Impacts to Neo-tropical Migrants and Other Birds

The disturbance of vegetation along 1000 feet of new utility corridors and 6000 feet of existing utility easements would result in a loss of approximately 0.3 acres of high elevation northern red oak forest. This impact would occur in areas that are already fragmented by existing roads, utility corridors and buildings associated with the Mt. Pisgah Developed Area. Although the decline of neo-tropical migrants is frequently associated with habitat fragmentation, some species benefit from the establishment of edge and early successional habitats (Simons et al. 1998). The long-term impact of any tree removal would be offset by the revegetation of several utility corridors that would be abandoned.

7.0 CONSULTATION AND COORDINATION

Governmental agencies consulted for information for the preparation of this report include the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, the North Carolina Division of Archives and History, and the U.S. Geological Survey. The Cultural Resources Survey that was conducted as part of this assessment (Appendix C) has been submitted to the North Carolina Historic Preservation Office for review.

8.0 COMPLIANCE WITH FEDERAL OR STATE REGULATIONS

As this project would involve work inside of a wetland area, a permit would be required from the U.S. Army Corps of Engineers. A permit for an earlier version of this project (that was never initiated), which also involved removal of fill from the wetland and construction of a bridge, was granted in 1998, but has expired. Therefore, the NPS must apply for a new permit. The U.S. Fish and Wildlife Service would be consulted in the event that any Carolina flying squirrel nesting activity is discovered in any trees planned for removal as part of this project. In addition, the plans for the water system improvements would require approval from the North Carolina Division of Environmental Health prior to the initiation of construction.

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APPENDIX A

SCOPING NOTICE



United States Department of the Interior

NATIONAL PARK SERVICE
Blue Ridge Parkway
199 Hemphill Knob Road
Asheville, North Carolina 28803

IN REPLY REFER TO:

L7617
(PIN 442)

March 5, 2003

**SCOPING NOTICE
FOR REHABILITATION OF
MT. PISGAH DEVELOPED AREA UTILITIES
ON THE BLUE RIDGE PARKWAY**

The National Park Service, Blue Ridge Parkway, is considering rehabilitating the existing water and sewer utilities at the Mt. Pisgah developed area, which is located on Parkway left at Milepost 407.6 to Milepost 408.7 in Haywood and Transylvania Counties, North Carolina, USGS Cruso and Dunsmore Mountain, NC quadrangle.

Background and Purpose

The Mt. Pisgah developed area serves 250,000 visitors annually and consists of a lodge, restaurant, camp store, gas station, gift shop, employee dormitories, campground, picnic area, sewage treatment plant and hiking trails.

Most of the facilities in this developed area are over 30 years old. Presently there is a corroded and severely leaking water distribution system including 8,000 lineal feet of water line, two pump houses, and water level controls. The corrosive water has caused the galvanized water piping to deteriorate. Deteriorated plastic sewer pipe and concrete/brick manholes are leaking sewage.

A unique mountain bog in the proposed project area is currently surrounded by leaking pipelines. Failure to correct the leaks could result in contamination of the bog, destruction of some existing vegetation or wildlife, and contamination to the surface waters of the downstream watershed. There is also visitor intrusion while crossing this sensitive area on a social (unauthorized) trail.

Proposed Action

1. Replacement of all campground waterlines in Loops A and B. This would consist of approximately 3,200 feet of lines in existing easements, and approximately 800 feet in new areas.

2. Construct approximately 800 feet of new waterline from the restaurant/concessions area to the cabin at the end of Loop A.
3. Replace approximately 1,000 feet of sewer lines in the restaurant/lodge area.
4. Demolish existing aboveground sewer line which crosses the bog. The concrete sewer supports, drainage pipes and earth trail fill would also be removed to allow natural water flow through the current crossing area.
5. Construct a new 100-foot footbridge over the bog. All footings for the bridge would be constructed outside of the delineated wetland area. A new water and sewer line would be suspended from the bridge. Approximately 200 feet of water line in the existing easement inside Loop C would be replaced to tie into the water line which crosses the bridge.
6. Replace approximately 4,500 feet of water lines on the west side of the Blue Ridge Parkway to the picnic area, and on the west side of the sewage treatment plant access road.
7. Replace approximately 2,600 feet of sewers from Loop C to the sewage treatment plant (including 16 manholes), and 1,000 feet from the picnic area to the sewage treatment plant.
8. Replace 1,000 feet of sewer line from the picnic area to the sewage treatment plant.
9. Pave the access road to the sewage treatment plant.
10. Demolish nine campsites adjacent to the bog (42, 44, 46, 48, 51, 110, 113, 114, and 117).

Decision-Making Process

The park Superintendent will make a final decision by mid-April 2003. A decision document will be prepared and mailed to those who participated in the process and/or to anyone who requests a copy of the decision.

We request your comments and concerns regarding the above proposed action.

Comment Process

Please provide your written comments **by April 4, 2003** to:

Environmental Protection Specialist
Blue Ridge Parkway
199 Hemphill Knob Road
Asheville, North Carolina 28803

For your input to be most helpful, please include specific effects related to this project which you feel needs to be analyzed and list specific mitigation measures.

Responding to this scoping notice is your opportunity to participate in this decision and ensure receipt of the documentation. If you have any concerns or questions, please contact:

- Suzette Molling, Environmental Protection Specialist, at 828-271-4779 ext 219 (Asheville, N.C.)

We welcome your involvement and encourage your input into this proposal.

APPENDIX B

Agency Comments



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

March 24, 2003

Ms. Suzette Molling, Superintendent
Environmental Protection Specialist
National Park Service
Blue Ridge Parkway
199 Hemphill Knob Road
Asheville, North Carolina 28803

Dear Ms. Molting:

Subject: Scoping Notice for Rehabilitation of Utilities at the Mt. Pisgah Developed Area on the Blue Ridge Parkway, Haywood and Transylvania, North Carolina

In your letter of March 5, 2003 (we received it March 12, 2003), you requested our comments on the subject project. The following comments are provided in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); the Migratory Bird Treaty Act, as amended (16 U.S.C. 703); and Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

According to the information provided in your letter, the Blue Ridge Parkway (Parkway) is considering rehabilitating the existing water and sewer utilities at the Mt. Pisgah developed area. Most of the facilities in this development are over 30 years old. Currently, there is a corroded and severely leaking water distribution system, including 8,000 feet of water line, two pump houses, and water level controls. The corrosive water has caused the galvanized piping to leak, and deteriorated plastic sewer pipe and concrete/brick manholes are leaking sewage.

Of utmost importance is a rare mountain bog in the project area that is surrounded by the leaking pipeline. Failure to correct the leaks could result in contamination of the bog and loss of the wildlife and plants that inhabit it. Downstream contamination is likely, and there is also a problem with visitors crossing the bog on an unauthorized trail.

To remedy these problems, the Parkway is proposing the following actions:

1. Replace all the campground water lines in Loops A and B. This would consist of about 3,200 feet of lines in existing easements and about 800 feet in new areas.
2. Construct about 800 feet of new water line from the restaurant/concession area to the cabin at the end of Loop A.
3. Replace about 1,000 feet of sewer lines in the restaurant/lodge area.
4. Demolish existing aboveground sewer lines that cross the bog. The concrete sewer supports, drainage pipes, and earth trail fill would also be removed to allow natural water flow through the current crossing area.
5. Construct a 100-foot footbridge over the bog. All footings for the new bridge would be constructed outside of the delineated wetland area. A new water and sewer line would be suspended from the bridge. About 200 feet of water line in the existing easement on Loop C would be replaced to tie into the water line that crosses the bridge.
6. Replace about 4,500 feet of water line on the west side of the Blue Ridge Parkway to the picnic area and on the west side of the sewage treatment plant access road.
7. Replace about 2,600 feet of sewer line from Loop C to the sewage treatment plant (including 16 manholes) and 1,000 feet from the picnic area to the sewage treatment plant.
8. Replace 1,000 feet of sewer line from the picnic area to the sewage treatment plant.
9. Pave the access road to the sewage treatment plant.
10. Demolish nine campsites adjacent to the bog (Nos. 42, 44, 46, 48, 51, 110, 113, 114, and 117).

We strongly support the Parkway's efforts to protect and improve conditions at the bog in the project area. However, as with all federal projects, care must be taken to ensure that no federally protected species are inadvertently affected. Enclosed is a list of species from Haywood and Transylvania Counties that are on the *Federal List of Endangered and Threatened Wildlife and Plants* and federal species of concern that may occur in the project impact area. We recommend surveying suitable habitat within the project area for these species prior to any further planning or on-the-ground activities to ensure that no adverse impacts occur to these species. Federal species of concern are not legally protected under the Act and are not subject to any of its provisions, including Section 7, unless they are formally proposed or listed as endangered or threatened. We are including these species in our response to give you advance notification.

Your biological evaluation of the impacts of the proposed water and sewer improvements should also include, at a minimum, the following information, if pertinent:

1. A description of the fishery and wildlife resources within existing and required additional rights-of-way and any areas, such as borrow areas, that may be affected, directly or indirectly, by the proposed management plan.

2. The acreage and a description of all wetlands that will be filled/altered as a result of the proposed management plan. Affected wetlands should be mapped in accordance with the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. We recommend contacting the U.S. Army Corps of Engineers to determine the need for a Section 404 Clean Water Act permit.
3. The extent (linear feet as well as discharge) of any water courses that will be impacted as a result of the proposed plan. A description of any streams should include the classification (Rosgen 1995, 1996) and a description of the biotic resources.
4. An analysis of the crossing structures considered (i.e., spanning structure, culvert) and the rationale for choosing the preferred structure(s). We prefer stream crossings that span the bank-full width of the stream and that do not impede natural stream functions or fish passage.
5. The mitigation measures that will be employed to avoid, eliminate, reduce, or compensate for habitat value losses (wetland, riverine, and upland) associated with any phase of the proposed plan.

We appreciate the opportunity to provide these comments and request that you continue to keep us informed as to the status of this project. If we can be of any assistance or if you have any questions, please do not hesitate to contact Mr. Allen Ratzlaff of our staff at 828/258-3939, Ext. 229. In any future correspondence concerning this project, please reference our Log Number 4-2-03-179.

Sincerely,

(Signed)

Brian P. Cole
State Supervisor

Enclosure

ENDANGERED, THREATENED, AND CANDIDATE SPECIES AND FEDERAL SPECIES OF CONCERN, HAY WOOD AND TRANSYLVANIA COUNTIES, NORTH CAROLINA

This list was adapted from the North Carolina Natural Heritage Program's County Species List. It is a listing, for Haywood and Transylvania Counties, of North Carolina's federally listed and proposed endangered, threatened, and candidate species and Federal species of concern (for a complete list of rare species in the state, please contact the North Carolina Natural Heritage Program). The information in this list is compiled from a variety of sources, including field surveys, museums and herbaria, literature, and personal communications. The North Carolina Natural Heritage Program's database is dynamic, with new records being added and old records being revised as new information is received. Please note that this list cannot be considered a definitive record of listed species and Federal species of concern, and it should not be considered a substitute for field surveys.

Critical habitat: Critical habitat is noted, with a description, for the counties where it is designated or proposed.

Aquatic species: Fishes and aquatic invertebrates are noted for counties where they are known to occur. However, projects may have effects on downstream aquatic systems in adjacent counties.

COMMON NAME	SCIENTIFIC NAME	STATUS
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HAYWOOD COUNTY

Critical Habitat Designation: Spruce-fir moss spider, *Microhexura montivaga* -
Critical habitat designated (see the July 6, 2001, *Federal Register*, 66:35547-35566).

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* - The main stem of the West Fork Pigeon River (French Broad River system), from the confluence of the Little East Fork Pigeon River, downstream to the confluence of the East Fork Pigeon River, and the main stem of the Pigeon River, from the confluence of the West Fork Pigeon River and the East Fork Pigeon River, downstream to the N.C. Highway 215 Bridge crossing, south of Canton, North Carolina.

Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates

Southern Appalachian saw-whet owl	Aegolius acadicus	FSC
Bog turtle	Clemmys muhlenbergii	T(S/A)'
Olive-sided flycatcher	Contopus borealis	FSC
Hellbender	Cryptobranchus alleganiensis	FSC
Cerulean warbler	Dendroica cerulea	FSC
Carolina northern flying squirrel	Glaucomys sabrinus coloratus	Endangered
Bald eagle	Haliaeetus leucocephalus	Threatened

delisting)

January 29, 2003

(proposed for

COMMON NAME	SCIENTIFIC NAME	STATUS
Southern Appalachian red crossbill	<i>Loxia curvirostra</i>	FSC
Southern rock vole	<i>Microtus chrotorrhinus carolinensis</i>	FSC
Gray bat	<i>Myotis grisescens</i>	Endangered
Southern Appalachian woodrat	<i>Neotoma floridana haematorea</i>	FSC
Alleghany woodrat	<i>Neotoma magister</i>	FSC
Southern Appalachian black-capped chickadee	<i>Poecile atricapillus praticus</i>	FSC
Eastern cougar	<i>Puma concolor cougar</i>	Endangered*
Southern water shrew	<i>Sorex palustris punctulatus</i>	FSC
Southern Appalachian yellow-bellied sapsucker	<i>Sphyrapicus varius appalaciensis</i>	FSC
Appalachian cottontail	<i>Sylvilagus obscurus</i>	FSC
Appalachian Bewick's wren	<i>Thryomanes bewickii altus</i>	FSC
Invertebrates		
Appalachian elktoe	<i>Alasmidonta raveneliana</i>	Endangered
Spruce-fir moss spider	<i>Microhexura montivaga</i>	Endangered
Tawny crescent butterfly	<i>Phyciodes batesii maconensis</i>	FSC*
Diana fritillary butterfly	<i>Speyeria diana</i>	FSC
Vascular Plants		
Fraser fir	<i>Abies fraseri</i>	FSC
Piratebush	<i>Buckleya disticophylla</i>	FSC
Mountain bittercress	<i>Cardamine clematitis</i>	FSC
Tall larkspur	<i>Delphinium exaltatum</i>	FSC*
Glade spurge	<i>Euphorbia purpurea</i>	FSC
Smoky Mountain mannagrass	<i>Glyceria nubigena</i>	FSC
Small whorled pogonia	<i>Isotria medeoloides</i>	Threatened
Butternut	<i>Juglans cinerea</i>	FSC
Fraser's loosestrife	<i>Lysimachia fraseri</i>	FSC
Torrey's mountain-mint	<i>Pycnanthemum torrei</i>	FSC*
Rugel's ragwort	<i>Rugelia nudicaulis</i>	FSC
Carolina saxifrage	<i>Saxifraga caroliniana</i>	FSC
Mountain catchfly	<i>Silene ovata</i>	FSC
Alabama least trillium	<i>Trillium pusillum</i> var. 1	FSC
Nonvascular Plants		
Rock gnome lichen	<i>Gymnoderma lineare</i>	Endangered
A liverwort	<i>Plagiochila sharpii</i>	FSC
A liverwort	<i>Plagiochila sullivanii</i> var. <i>sullivanii</i>	FSC
A liverwort	<i>Sphenolobopsis pearsonii</i>	FSC

TRANSYLVANIA COUNTY

Critical Habitat Designation: Appalachian elktoe, *Alasmidonta raveneliana* – The main stem of the Little River (French Broad River system), from the Cascade Lake Power Plant, downstream to its confluence with the French Broad River.

COMMON NAME	SCIENTIFIC NAME	STATUS
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Within these areas, the primary constituent elements include: (i) Permanent, flowing, cool, clean water; (ii) Geomorphically stable stream channels and banks; (iii) Pool, riffle, and run sequences within the channel; (iv) Stable sand, gravel, cobble, boulder, and bedrock substrates with no more than low amounts of fine sediment; (v) Moderate to high stream gradient; (vi) Periodic natural flooding; and (vii) Fish hosts, with adequate living, foraging, and spawning areas for them.

Vertebrates

Southern Appalachian saw-whet owl	<i>Aegolius acadicus</i>	FSC
Green salamander	<i>Aneides aeneus</i>	FSC
Bog turtle	<i>Clemmys muhlenbergii</i>	T(S/A)'
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>	FSC*
Hellbender	<i>Cryptobranchus alleganiensis</i>	FSC
Carolina northern flying squirrel	<i>Glaucomys sabrinus coloratus</i>	Endangered
Southern Appalachian red crossbill	<i>Loxia curvirostra</i>	FSC
Southern Appalachian woodrat	<i>Neotoma floridana haematoreia</i>	FSC*
Southern Appalachian black-capped chickadee	<i>Poecile atricapillus praticus</i>	FSC
Southern Appalachian yellow-bellied sapsucker	<i>Sphyrapicus varius appalaciensis</i>	FSC
Appalachian cottontail	<i>Sylvilagus obscurus</i>	FSC
Appalachian Bewick's wren	<i>Thryomanes bewickii altus</i>	FSC*

Invertebrates

Appalachian elktoe	<i>Alasmidonta raveneliana</i>	Endangered
French Broad crayfish	<i>Cambarus reburus</i>	FSC
Oconee crayfish ostracod	<i>Cymocythere clavata</i>	FSC
Oyster mussel	<i>Epioblasma capsaeformis</i>	Endangered
Margarita River skimmer	<i>Macromia margarita</i>	FSC
Diana fritillary butterfly	<i>Speyeria diana</i>	FSC*
Transylvania crayfish ostracod	<i>Waltoncythere acuta</i>	FSC

Vascular Plants

Fraser fir	<i>Abies fraseri</i>	FSC
Alexander's rock aster	<i>Aster avitus</i>	FSC
Cuthbert's turtlehead	<i>Chelone cuthbertii</i>	FSC
Spreading avens	<i>Geum radiatum</i>	Endangered
Smoky Mountain mannagrass	<i>Glyceria nubigena</i>	FSC
Swamp pink	<i>Helonias bullata</i>	Threatened
French Broad heartleaf	<i>Hexastylis rhombiformis</i>	FSC
Small whorled pogonia	<i>Isotria medeoloides</i>	Threatened
Butternut	<i>Juglans cinerea</i>	FSC
Fraser's loosestrife	<i>Lysimachia fraseri</i>	FSC
Sweet pinesap	<i>Monotropsis odorata</i>	FSC
Flatrock panic grass	<i>Panicum lithophilum</i>	FSC*
Mountain sweet pitcher plant	<i>Sarracenia jonesii</i>	Endangered
Southern oconee-bells	<i>Shortia galacifolia</i> var. <i>galacifolia</i>	FSC
Lobed barren-strawberry	<i>Waldsteinia lobata</i>	FSC

COMMON NAME	SCIENTIFIC NAME	STATUS
Nonvascular Plants		
Gorge moss	<i>Bryocrumia vivicolor</i>	FSC
Rock gnome lichen	<i>Gymnoderma lineare</i>	Endangered
A liverwort	<i>Plagiochila sharpii</i>	FSC
A liverwort	<i>Plagiochila sullivantii</i> var. <i>sullivantii</i>	FSC
A liverwort	<i>Plagiochila virginica</i> var. <i>caroliniana</i>	FSC

KEY:

Status	Definition
Endangered	A taxon "in danger of extinction throughout all or a significant portion of its range."
Threatened	A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of its range."
FSC	A Federal species of concern--a species that may or may not be listed in the future (formerly C2 candidate species or species under consideration for listing for which there is insufficient information to support listing).
T(S/A)	Threatened due to similarity of appearance (e.g., American alligator)--a species that is threatened due to similarity of appearance with other rare species and is listed for its protection. These species are not biologically endangered or threatened and are not subject to Section 7 consultation.

Species with 1, 2, 3, or 4 asterisks behind them indicate historic, obscure, or incidental records.

*Historic record - the species was last observed in the county more than 50 years ago.

**Obscure record - the date and/or location of observation is uncertain.

***Incidental/migrant record - the species was observed outside of its normal range or habitat.

****Historic record - obscure and incidental record.

'In the November 4, 1997, *Federal Register* (55 822-55825), the northern population of the bog turtle (from New York south to Maryland) was listed as T (threatened), and the southern population (from Virginia south to Georgia) was listed as T(S/A) (threatened due to similarity of appearance). The T(S/A) designation bans the collection and interstate and international commercial trade of bog turtles from the southern population. The T(S/A) designation has no effect on land-management activities by private landowners in North Carolina, part of the southern population of the species. In addition to its official status as T(S/A), the U.S. Fish and Wildlife Service considers the southern population of the bog turtle as a Federal species of concern due to habitat loss.

January 29, 2003

Page 4 of 4



North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

MEMORANDUM

TO: Melba McGee, Environmental Coordinator
DENR—Office of Legislative and Intergovernmental Affairs

FROM: *Owen F. Anderson*
Owen F. Anderson, Mountain Region Coordinator
Habitat Conservation Program

DATE: April 11, 2003

SUBJECT: Scoping Comments Concerning the Proposed Rehabilitation of Mt. Pisgah Developed Areas on the Blue Ridge Parkway, National Park Service

Biologists with the North Carolina Wildlife Resources (NCWRC) have reviewed the subject scoping notice. We are familiar with fish and wildlife and respective habitats of the project area. These comments are provided in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d) and the National Environmental Policy Act (42 U.S.C. 4332(2)(c)).

The National Park Service, Blue Ridge Parkway, is considering rehabilitating the existing water and sewer utilities at the Mt. Pisgah developed area, which is located on the Parkway at Milepost 407.6 to Milepost 408.7 in Haywood and Transylvania counties. Most of the infrastructure is over 30-years old and is leaking. The leaking utility lines threaten a unique bog. The following specific work is proposed.

1. Replacement of all campground waterlines in Loops A and B which is approximately 3200 feet in existing easements and 800 feet of new line.
2. Construct 800 feet of new waterline from the restaurant/concessions area to the Cabin at the end of Loop A.
3. Replace 1000 feet of sewer lines in the restaurant/lodge area.

4. Demolish existing aboveground sewer line, which crosses the bog. The concrete sewer supports, drainage pipes and earth trail would also be removed allow natural water flow through the current crossing area.
5. Construct a new 100-foot footbridge over the bog. All footings for the bridge would be constructed outside of the delineated wetland area. A new water and sewer line would be suspended from the bridge. Approximately 200 feet of water line in the existing easement inside Loop C would be replaced to tie into the water line, which crosses the bridge.
6. Replace approximately 4500 feet of water lines on the west side of the Blue Ridge Parkway to the picnic area, and on the west side of the sewage treatment plant access road.
7. Replace approximately 2600 feet of sewers from loop C to the sewage treatment plant (including 16 manholes), and 1000 feet from the picnic area to the sewage treatment plant.
8. Replace 1000 feet of sewer line from the picnic area to the sewage treatment plant.
9. Pave the access road to the sewage treatment plant.
10. Demolish nine campsites adjacent to the bog (42, 44, 46, 48, 51, 110, 113, 114, 117).

Except for a small amount of new water line, the proposed work represents improvements in existing infrastructure. We would expect any impacts to fish and wildlife habitat from direct and secondary impacts to be limited. We believe the potential benefits to fish and wildlife resources exceed the potential adverse impacts; therefore, we support this project. Since there are several rare plants known from the area, we do recommend surveying the potential impact areas and incorporating measures to avoid impacts to rare species as necessary.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (828) 452-2456 ext 24.

cc: **Suzette Molling, Environmental Protection Specialist, National Park Service**

DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

Inter-Agency Project Review Response

Project Number	03-0267
County	Haywood

Project Name US Dept. of the Interior Type of Project Replacement of all campground

Waterlines in Loops A and B

Comments provided by:

- ☐ Regional Program Person
- ☒ Regional Engineer for Public Water Supply Section
- ☐ Central Office program person

NC Dept. of Environment
& Natural Resources
Asheville Regional Office

MAR 25 2003

Name: _____ Date: _____

Telephone number: _____

Program within Division of Environmental Health:

- ☒ Public Water Supply
- ☐ Other, Name of Program: _____

Response (check all applicable):

- ☒ No objection to project as proposed
- ☐ No comment
- ☐ Insufficient information to complete review
- ☐ Comments attached
- ☒ See comments below

See Comments on reverse page.

Return to:

Public Water Supply Section
Environmental Review Coordinator
for the
Division of Environmental Health

DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

Project Number 03-0267
County Waywood

Inter-Agency Project Review Response

Project Name US Dept of Interior Type of Project Replacement of water line to Loop 4 & B of t sewer

- ☒ The applicant should be advised that plans and specifications for all water system improvements must be approved by the Division of Environmental Health prior to the award of a contract or the initiation of construction (as required by 15A NCAC 18C .0300et. seq.). For information, contact the Public Water Supply Section, (919) 733-2321.
- ☐ This project will be classified as a non-community public water supply and must comply with state and federal drinking water monitoring requirements. For more information the applicant should contact the Public Water Supply Section, (919) 733-2321.
- ☐ If this project is constructed as proposed, we will recommend closure of _____ feet of adjacent waters to the harvest of shellfish. For information regarding the shellfish sanitation program, the applicant should contact the Shellfish Sanitation Section at (252) 726-6827.
- ☐ The soil disposal area(s) proposed for this project may produce a mosquito breeding problem. For information concerning appropriate mosquito control measures, the applicant should contact the Public Health Pest Management Section at (252) 726-8970.
- ☐ The applicant should be advised that prior to the removal or demolition of dilapidated structures, a extensive rodent control program may be necessary in order to prevent the migration of the rodents to adjacent areas. For information concerning rodent control, contact the local health department or the Public Health Pest Management Section at (919) 733-6407.
- ☐ The applicant should be advised to contact the local health department regarding their requirements for septic tank installations (as required under 15A NCAC 18A. 1900 et. seq.). For information concerning septic tank and other on-site waste disposal methods, contact the On-Site Wastewater Section at (919) 733-2895.
- ☐ The applicant should be advised to contact the local health department regarding the sanitary facilities required for this project.
- ☐ If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Environmental Health, Public Water Supply Section, Technical Services Branch, 1634 Mail Service Center, Raleigh, North Carolina 27699-1634, (919) 733-2321.
- ☐ For Regional and Central Office comments, see the reverse side of this form.

Jerry Bloom

Jerry Bloom
Reviewer

Ashville P.O.
Section/Branch
DEH, P.W.S.S.

MARCH 28 2003
Date

APPENDIX C

Phase I Archaeological Survey

Phase I Archaeological Survey for Utility Line Improvements at
**Mt. Pisgah Campground,
Blue Ridge Parkway**

Haywood County, North Carolina



New South Associates

6150 East Ponce de Leon Avenue
Stone Mountain, Georgia 30083

Phase I Archaeological Survey for Utility Line Improvements at Mt. Pisgah Campground, Blue Ridge Parkway

Haywood County, North Carolina

Report submitted to:

BAT Associates, Inc • 5151 Brook Hollow Parkway, Suite 250 • Norcross, Georgia 30071

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J.W. Joseph, PhD, RPA – Principal Investigator

Matthew J. Edwards, RPA – Archaeologist and Author

August 27, 2003 • **Draft Report**
New South Associates Technical Report # 1117

MANAGEMENT SUMMARY

New South Associates conducted a Phase I archaeological survey of the proposed utility line improvements at Mt. Pisgah Campground on July 28, 2003. The project area consists of approximately 2.1 miles of existing easement where existing water and sewer lines are to be removed and replaced. Additionally, the project may require an additional 2,750 linear feet for the construction of new water lines. It is this area, since it involves new ground disturbance, that required archaeological survey. The study entailed four basic tasks: background research, fieldwork, analysis of data, and preparation of this report. No new or existing archaeological sites were found or recorded during the course of the survey and no further study of the project area is recommended.

Based on background research and in-field archaeological survey of the study area, the affected environment for the proposed utility line improvements were found to include the Blue Ridge Parkway and the Mt. Pisgah Campground itself, the historic cabin remaining from the Old Pisgah Inn complex, and as yet undiscovered archaeological deposits that might exist on the site. The impact of the project as proposed on each of these resources are as follows:

- The potential historical significance of the Blue Ridge Parkway and Mt. Pisgah Campground would be unaffected by the project as proposed. Both the Blue Ridge Parkway and the Mt. Pisgah Campground have been significantly altered and updated over the years. The historic significance of the parkway lies in its unique origins, design, location, and patterns of use over time rather than intact historic fabric.
- The potential historical significance of the historic cabin remaining from the Old Pisgah Inn complex will also be unaffected by either of the proposed alternatives as neither of them propose work near the cabin.
- It is unlikely that either of the proposed actions will have an impact on undiscovered archaeological deposits at the Mt. Pisgah Campground. Alternative I proposes construction of 2750-feet of new water and sewer line. The rest of the improvements involve removal and replacement or abandonment in-place of existing lines. Any archaeological deposit that may be present within existing water/sewer line easements would have been disturbed by the original construction. The 2750-feet of new construction proposed in Alternative I was subjected to intensive archaeological survey during the current study. A large portion of the proposed new pipeline corridor was on steep and eroded terrain or had already been disturbed by other construction and maintenance activities. Shovel testing of undisturbed, level areas yielded no subsurface artifacts or features.

The survey found no new or previously recorded archaeological sites located within the project area. No further archaeological study in preparation for the proposed utility line improvements at the Mt. Pisgah Campground is recommended.

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I. INTRODUCTION

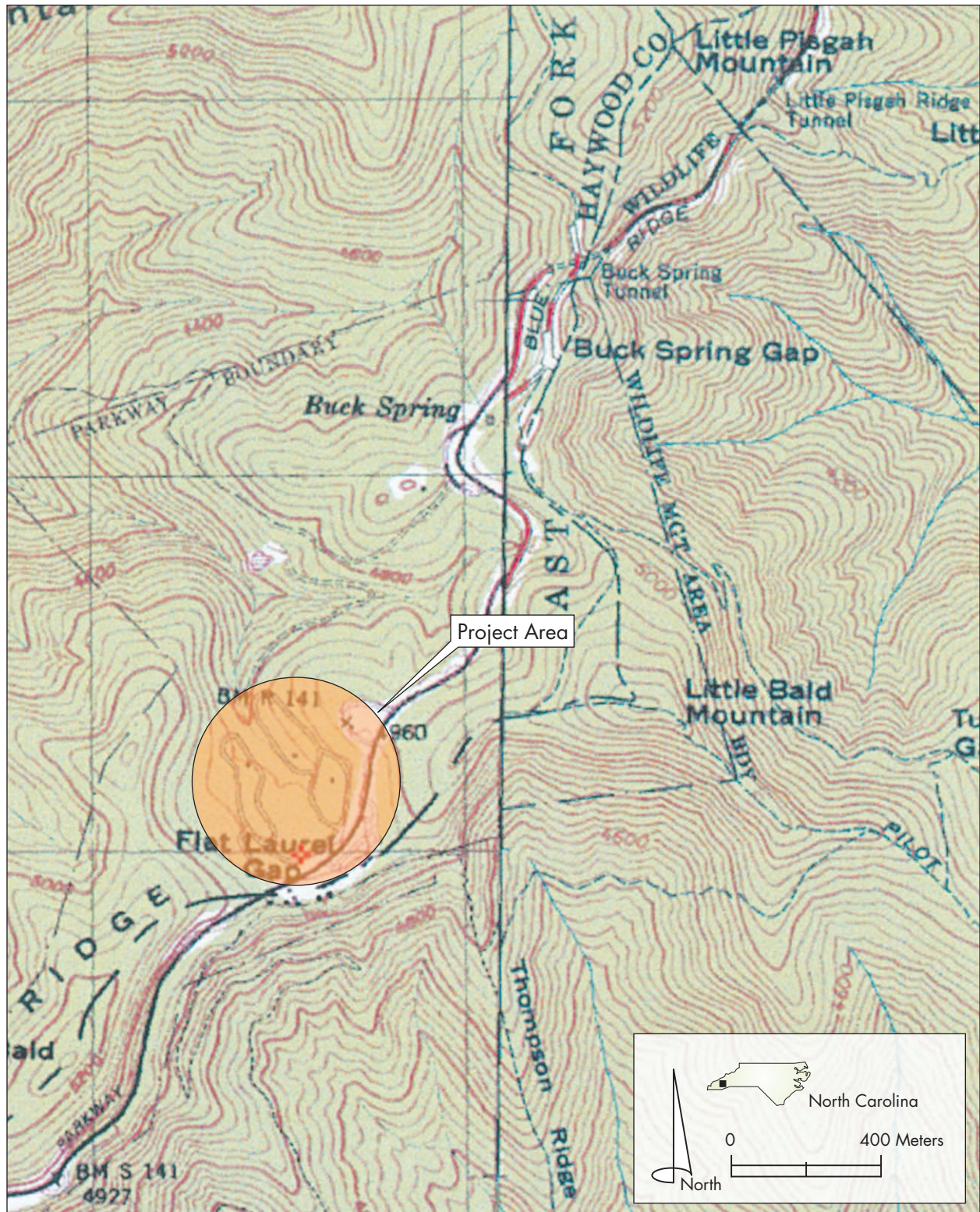
New South Associates conducted a Phase I archaeological survey of the proposed utility line improvements at Mt. Pisgah Campground on July 28, 2003 (Figure 1). The project area consists of approximately 2.1 miles of existing easement where existing water and sewer lines are to be removed and replaced. Additionally, the project may require an additional 2,750 linear feet for the construction of new water lines. It is this area, since it involves new ground disturbance, that required archaeological survey. The study entailed three basic tasks: background research, fieldwork, analysis of data, and preparation of this report.

During the preparation of an environmental assessment (EA) for the current project, files at the North Carolina Division of Archives and History were consulted in order to determine whether any previously recorded historical resources or archaeological sites are located in the project area or its immediate vicinity. This background research informed the design and execution of the current study. Site forms for archaeological sites recorded within or near the study area were copied, and detailed notes were made for all sites identified within a one mile study window surrounding the project area to develop a sense of the known prehistoric/historic settlement and site distribution in the region. Archaeological reports from the region were also gathered to aid in developing an archaeological context for the project.

The purpose of the investigation was to locate any archaeological resources within the survey corridor and to make recommendations concerning their National Register of Historic Places (NRHP) eligibility. No new archaeological sites were identified within the survey area.

The report is divided into five sections, including this introduction. Chapter II discusses the environmental setting of the project area. Chapter III provides a prehistoric and historic overview; while Chapter IV describes the methods employed during the survey. Lastly, the results and recommendations of the survey are presented in Chapter V.

The Principal Investigator for the survey was Dr. J. W. Joseph, RPA. Matthew J. Edwards was the project Field Director and authored the report. W. Matthew Tankersley assisted in the field and Leeanna Lim prepared the graphics.

Figure 1
Project Area

Source: USGS Topographic Quadrangle; Cruso, North Carolina; 1987

II. ENVIRONMENTAL CONTEXT

The project area is located within Haywood County, which lies in western North Carolina. The area investigated lies in the Blue Ridge physiographic area (Fenneman 1938). Perhaps a more important designation is Kroeber's (1939:95) Appalachian Summit culture area, which comprises the highest portion of the Appalachian Mountain chain. At over 5,700 feet above sea level, Mt. Pisgah campground certainly fits this description. Rather pronounced topographic relief characterizes the Appalachian Summit. Further, a dense drainage system has created numerous deep, narrow, and steep-sided valleys and narrow ridges (Purrrington 1983). From a cultural perspective, Purrrington (1983:89) notes that:

In the uplands level areas suitable for human habitation are found at gaps, saddles, upland flats and at some summits, ridge lines, spur ridges, and stream valleys. Streams descend rapidly from the uplands to the more gently flowing rivers, but even in the major river valleys floodplains seldom exceed a mile in width, and riffles, rapids, and gorges are common.

Drainage in much of the area flows west into either the Tennessee River or, in the case of the New River, the Ohio. The current study tract lies in the eastern portion of the tract, which instead drains into Piedmont rivers that flow more slowly toward the Atlantic and the Gulf of Mexico. Mt. Pisgah lies in the French Broad River Hydrological unit (Purrrington 1993:96-97).

A humid, temperate, and continental climate predominates on the Appalachian Summit today. The average summer temperature ranges between 68 and 74 degrees Fahrenheit, depending on elevation. Winter temperatures also depend on elevation and can get quite cold. While average winter temperatures range between 36 to 42 degrees Fahrenheit, they routinely dip to below zero and snow often remains on the ground for days at a time. The eastern escarpment of the Blue Ridge receives the heaviest rainfall in the Eastern United States but intensity varies locally. Mean annual precipitation for the region falls between 50 to 60 inches. The average frost-

free season ranges from 150-190 days (Lee 1955:10-12).

A great deal of diversity in plant communities exist along the Appalachian Summit. Purrrington (1993:94-95) has summarized a number of sources including Bass (1977), Braun (1950), Leighty et al. (1944:57), Perkins and Gettys (1947:9), Stupka (1964), Ware (1973), and Whittaker (1956) into six general plant communities for the Appalachian Summit. Three of these: high mountain peaks, ridges and slopes with shallow soil, and mountain forests apply to the current study area with ridges and slopes being the description closest to conditions observed in the field. This community consists of pitch-pine and table-mountain pine at higher elevations (3,500+ ft.) with post and scrub oak dominant in lower elevations.

Animal species include white tailed deer, black bear, mountain lion, gray wolf, bobcat, groundhog, cottontail rabbit, raccoon, squirrels, fox, beaver, opossum, skunk, and muskrat. Important game birds include turkey, grouse, and passenger pigeon but migratory waterfowl are scarce. Rivers and streams contain a variety of fish, turtles, amphibians, and shellfish (Shelford 1963).

III. CULTURAL CONTEXT

The following section describes the prehistoric and historic cultural development of western North Carolina in order to provide a framework against which to judge the significance of any cultural resources found by the survey project. Background research for the archeological survey of the proposed utility line improvements at Mt. Pisgah Campground was conducted at the North Carolina Division of Archives and History and the Office of State Archaeology in Raleigh.

PREVIOUS ARCHEOLOGICAL RESEARCH

Site files maintained by the North Carolina Office of State Archaeology were consulted to help place the current survey in a framework of previous archeological research in the county. No archaeological sites have been previously recorded within a one-mile radius of the Mt. Pisgah Campground. However, a number of cultural resources surveys have been undertaken in the general vicinity. These are summarized below:

Cultural Resources Survey for a Proposed Road in the Beaverdam Area of the Pisgah National Forest. Six miles (9.7-km) north-northeast of Mt. Pisgah. One Middle Archaic site was located (Snedeker and Ruesch 1986).

Cultural Resources Survey for the Proposed Beaverdam Timber Sale. Three areas between 2.6 miles (4.2-km) and 3.8 miles (6.1-km) north of Mt. Pisgah. One prehistoric and historic site was recorded (Harmon and Snedeker 1987).

Archaeological Study of NC 151 from SR 1103 to SR 1129, Buncombe County. 5.4 mile (8.7-km) long corridor, 4.2 miles (6.8-km) north of Mt. Pisgah at the nearest point. Eight sites were found to be located within the project vicinity. Of the eight sites, four were thought likely to be affected by the project and two of these were recommended potentially eligible for the National Register (Padgett 1991). One of these two sites underwent close interval shovel testing during a later addendum to the project for a specific alternate and Phase II testing recommended. This study located another site that was also deemed potentially eligible (Joy 1994).

Archaeological Study of Secondary Road 3464 (Black Oak Cove Road), Buncombe County. 1.8 mile long (2.9-km) corridor, 2.6 miles (4.2-km) north of Mt. Pisgah at the nearest point. Two historic sites were recorded (Robinson 1991).

Cultural Resources Survey for the Proposed Mt. Pisgah Timber Sale. Eight areas between 1.8 and 2.4 miles (2.9 and 3.9-km) north of Mt. Pisgah were surveyed and 10 sites were recorded. Eight are prehistoric (one has a historic component) and two are historic (one has a prehistoric component). Two of the sites were recommended potentially eligible (Noel and Snedeker 1992).

Heritage Resources Survey for the Proposed Avery Creek Timber Sale. Six miles (9.7-km) east-northeast of Mt. Pisgah. Seven sites, all prehistoric (three with historic components) were recorded but only one was recommended potentially eligible (Noel 1994).

Heritage Resources Survey for the Proposed Bent Creek Complex Timber Sale Project. Three units 7.6 miles (12.2-km) northeast of Mt. Pisgah were surveyed. Eleven sites were recorded, 10 prehistoric and one with both prehistoric and historic components. Three of the sites recorded were recommended potentially eligible (Ashcraft and Snedeker 2002).

These studies recorded or evaluated a total of eleven archaeological sites, all prehistoric although one contains an historic component. Of these eleven sites, three have been recommended eligible for listing on the National Register, the remaining eight have been recommended ineligible. None of the previously recorded sites in the vicinity of Mt. Pisgah Campground will be impacted by the project under consideration here.

CULTURAL OVERVIEW

The works cited in the following prehistoric overview were used as base sources for Table 1, which contains a composite cultural chronology for the Appalachian Summit culture area.

Table 1. Culture Chronology

Period	Date	Cultural Complex*
Paleoindian	10,000-8,000 B.C	Clovis, Cumberland, Hardaway
Early Archaic	8,000-6,000 B.C.	Palmer, Kirk
Middle Archaic	6,000-3,000 B.C.	Stanly, Morrow Mtn., Guilford
Late Archaic	3,000-1,000 B.C.	Savannah River, Ottare
Early Woodland	1,000-100 B.C	Swannanoa
Middle Woodland	100 B.C.-A.D. 800	Pigeon, Connestee
Late Woodland/ S. Appalachian	A.D. 800-1600	Late Connestee, Pisgah, Middle Qualla
Mississippian		
Contact	A.D. 1600-1800	Late Qualla
Historic	A.D. 1800+	Cherokee

*listed from early to late.

PALEOINDIAN PERIOD

Human occupation of the Appalachian Summit region began around 12,000 BP during a late Pleistocene migration that researchers believe populated the Americas. The beginning of this pan-continental stage of prehistory is defined almost entirely by the presence of distinctive, fluted projectile points known as Clovis points – after the site in New Mexico where they were first found. Investigations at a number of sites that may pre-date the Clovis horizon have called into question whether Clovis was the first New World culture. Regardless of where this debate leads it is clear that Clovis hunters – either due to absence of competition, by supplanting small groups already present, or by a combination of these – occupied the entire American continent by 11,500 BP (Anderson 2002, Bense 1994). The Paleoindian stage is a concept used by archeologists working in North Carolina and elsewhere to describe the period that spans this migration to the onset of the Holocene climatic epoch.

Finds dating to the Paleoindian period in the mountains of western North Carolina are rare and have been limited to isolated surface artifacts. No buried, stratified sites have been located in the region. Investigators have formalized Paleoindian Stage intervals into a chronology consisting of Early, Middle, and Late Paleoindian subperiods. These temporal ranges are based on stylistic variations in Paleoindian projectile point forms. Early and Middle Paleoindian subperiod is recognized by the presence of fluted Clovis and Cumberland points in the mountains of North Carolina, while Hardaway-Dalton points signal the Late Paleoindian. Eight fluted points have been recovered from the Appalachian Summit, scattered from Cherokee

County in the south to Ashe County in the north (Perkinson 1973:50). Just as few Late Paleoindian Hardaway-Dalton points have been recovered from the area (Purrington 1983:46). However, Purrington (1983:108) has gleaned one interesting observation from this handful of finds; most of these specimens are made of local material, suggesting that Paleoindian peoples did in fact occupy the Appalachian Summit, rather than simply passing through.

ARCHAIC PERIOD

While major cultural developments are observed during the Archaic Stage throughout much of the southeast such as large settlements, the construction of mounds and earthworks, and the establishment of long-distance trading networks (Bense 1994); use of the Appalachian Summit by Archaic peoples appears to have been quite limited (Ward and Davis 1999). However, changes are seen throughout the Archaic Stage in the mountains of North Carolina that are matched by changes in material culture – most notably in projectile point forms and lithic raw material usage. These changes take place over a long period of time, some 7,000 years. Based on the timing of such cultural changes, the Archaic Stage has been subdivided into Early, Middle, and Late subperiods (Bense 1994).

Use of the Appalachian Summit during the Early Archaic appears to be predominantly for short term extraction expeditions with groups establishing only small, temporary camps in the area – returning to more substantial settlements in the Ridge and Valley region of eastern Tennessee (Bass 1977, Purrington 1983). Kirk Corner Notched and bifurcated point types are typical markers of the Early Archaic subperiod in the Appalachian Summit, most of which (over 90% of a sample collected by Bass [1977] during a survey of the Great Smokey Mountains National Park, which abuts the Blue Ridge Parkway) are crafted from cherts quarried in eastern Tennessee.

This pattern seems to change during the Middle Archaic. During this time, points diagnostic of the period such as Stanley Stemmed, Morrow Mountain Stemmed, and Guilford Lanceolate are made predominantly of local materials – suggesting a more intensive use of the area (Ward and Davis 1999:70). Further, about half of the Middle Archaic sites located in the area are in upland settings (Bass 1977). This change may be in response to warmer and drier conditions brought on by the Altithermal (Claggett and Cable 1982, Delcourt and

Delcourt 1979). Other markers for the subperiod include atlatl weights and stone net sinkers, indicating an increased reliance on fishing (Chapman 1985, Davis 1990).

A preference for the lowlands, especially the floodplains along major rivers, reappears in the settlement patterns of the Late Archaic in the mountains – particularly areas near outcrops of quartzite (Bass 1977, Ward and Davis 1999). This is the predominant material for the manufacture of Savannah River Stemmed spear points, which are diagnostic of the early part of the subperiod. The smaller, Iddins Undifferentiated Stemmed point marks the latter half of the Late Archaic (Ward and Davis 1999:71). While the mountains of North Carolina follow the rapid population increases seen in the piedmont during this time (Chapman 1985), use of the uplands appears to be restricted to only a few, small hunting camps (Bass 1977).

WOODLAND/ MISSISSIPPIAN PERIOD

The Woodland period as a whole is characterized by increased social complexity, ceremonial activities, and a diversified subsistence pattern that relied on small game animals, aquatic life and, eventually, agricultural products. Many of the ideas and material culture traditions seen in western North Carolina have distant origins. By the end of the Woodland stage, the people of the area are participating in the South Appalachian Mississippian Tradition. The dramatic changes categorized under the Mississippian rubric created some of the largest, most complex American societies yet seen on the continent north of Mesoamerica. While many of the key elements of Mississippian culture derive from trends clearly underway during the Woodland, they were taken to a new level during the Mississippian.

The Early Woodland is represented in the Appalachian Summit by the Swannanoa culture. In addition to diagnostic small, stemmed spear points such as Swannanoa Stemmed, Plott Stemmed, and Gypsy – a large triangular point called the Transylvania Triangular is also contemporaneous with the Swannanoa Phase, suggesting the introduction into the area of the bow and arrow (Ward and Davis 1999). Settlement and subsistence data for the area is quite limited but suggests a continuation of patterns established during the Archaic (Chapman and Shea 1981, Lafferty 1981). While numerous Swannanoa Phase sites have been located in the uplands of the Appalachian Summit, it is probable that these represent part of an overall settlement system in

which uplands were exploited seasonally by groups from larger floodplain settlements (Ward and Davis 1999:145). Occupational intensity at such base camps suggests rather productive subsistence strategies. From an archaeological standpoint, the most dramatic trait distinguishing the Woodland from the preceding Archaic Stage, is the introduction of ceramic technology. Additionally, Swannanoa pottery is quite similar to contemporaneous ceramic complexes in the North Carolina Piedmont, eastern Tennessee, and northern Georgia suggesting that the innovation was regional in scope.

Two distinct phases make up the Middle Woodland in the mountains of North Carolina: the Pigeon Phase and the later Connestee Phase. Ceramics from these two phases seem to indicate an influx of ideas from different areas, with Pigeon pottery resembling the widespread Deptford tradition from Georgia and Connestee being more closely related to types from eastern Tennessee (Holden 1966:84-85). These links have left some to suggest a Middle Woodland “interaction sphere” involving a region comprising much of today’s northern Georgia, eastern Tennessee, and southwestern North Carolina (Keel 1976:228-229). Connestee is better understood at present than the preceding Pigeon culture. The system described above for the Early Woodland, whereby the uplands are used for short-term extraction activities rather than permanent camps. Indeed, use of fertile bottomlands becomes more intense during the Pigeon phase.

Two distinct phases make up the Middle Woodland in the mountains of North Carolina: the Pigeon Phase and the later Connestee Phase. Ceramics from these two phases seem to indicate an influx of ideas from different areas, with Pigeon pottery resembling the widespread Deptford tradition from Georgia and Connestee being more closely related to types from eastern Tennessee (Holden 1966:84-85). These links have left some to suggest a Middle Woodland “interaction sphere” involving a region comprising much of today’s northern Georgia, eastern Tennessee, and southwestern North Carolina (Keel 1976:228-229). Connestee is better understood at present than the preceding Pigeon culture. The system described above for the Early Woodland, whereby the uplands are used for short-term extraction activities rather than permanent camps. Indeed, use of fertile bottomlands becomes more intense during the Pigeon phase and Connestee more so. Also, by the Connestee phase, the Appalachian Summit appears to be involved in two distinct interaction spheres – the Swift Creek to the south and Hopewell centers to the north with earlier Connestee

apparently closer to Hopewellian artifacts and ideas and later vessels showing greater affinity with Swift Creek (Ward and Davis 1999:155).

Data regarding the Late Woodland in the North Carolina Mountains is rather Spartan. One culture, Cane Creek, has been tentatively identified as Late Woodland, or at the end of the Connestee phase (Keel and Egloff 1984:24). Cane Creek ceramics appear to be a very conservative continuation of earlier Connestee pottery. This observation begs the question, if Cane Creek is a late manifestation of Connestee, then how to explain the abrupt appearance of Mississippian traditions in the Appalachian Summit? The question is even more pointed if the late dates currently assigned to Cane Creek turn out to be incorrect. Either way, a tidy, continuous cultural evolution from the Woodland, through the Mississippian Pisgah phase, to the historic Cherokee seems, for now, to be tenuous.

The introduction of Mississippian traditions into the Appalachian Summit region began with the Pisgah Phase. Continuing the settlement patterns observed since the Late Archaic, Pisgah peoples show a preference for floodplain environments. Settlements range in size from small farmsteads to large nucleated villages – complete with dramatic public architecture such as platform mounds – with the smaller settlements usually clustered around the mound centers. Of interest in the current study, it should be noted that only small, temporary hunting or collecting camps have been found in nonriverine settings (Dickens 1978, Purrington 1983, Ward and Davis 1999). One exception to this pattern has been recorded however at the Brunk Site (31BN151) in northern Buncombe County. The site is located at the head of a mountain cove and contains a dense concentration of artifacts. While smaller than the floodplain settlements of the Asheville, Pigeon, and Hendersonville intermountain basins, the site is obviously more than a temporary settlement (Moore 1981). It is not yet known whether Brunk represents a wider pattern or is an anomaly. Evidence also suggests that larger Pisgah sites were occupied year-round (DeBoer 1988, Ward and Davis 1999). Study of Pisgah burials at the large Warren-Wilson Site (31BN29), also in Buncombe County, has provided data strongly suggesting hereditary social ranking (Dickens 1976:128). Pisgah ceramics show the same dramatic break with North Carolina mountain traditions discussed for the Late Woodland above. In fact, Pisgah vessel forms – especially their collared rims and rectilinear complicated stamped surfaces have no regional corollaries (Ward and Davis 1999). Similar forms have been found in the

Iroquois area of western New York State, southwestern Ohio, and the Oliver Phase in southern Indiana (Dickens 1976, Griffin 1966, Kelly and Neitzel 1961, MacNeish 1952).

The last half of the South Appalachian Mississippian Tradition is marked by the Qualla Phase, which, in turn, is a manifestation of the widespread and prolonged Lamar culture. Lamar influence is seen throughout northern Georgia and Alabama, South Carolina, and eastern Tennessee in addition to western North Carolina. It also spans from AD 1350 until 1800 (Hally 1994:147). In western North Carolina, a population shift is observed away from the eastern and central mountains, where most of the Pisgah sites are located (and, incidentally, the current study), and toward the western and southern mountains within the Little Tennessee and Hiwassee drainages (Ward and Davis 1999:179). Qualla societies also appear to have been more egalitarian than their Pisgah predecessors. Qualla communities retained chieftains but their power was more diffused and based increasingly on the consent of the governed (Anderson 1994, Ferguson 1971). Qualla settlements become more dispersed after European contact although a strong communal sense was retained as evidence by the continued use of mound centers and town houses well into the historic period (Ward and Davis 1999:187).

CONTACT AND HISTORIC PERIODS

European contact with native groups near the study area began with the explorations of three Spaniards, de Soto, de Luna, and Pardo, into the interior of what is now the southeastern United States during the middle sixteenth century. The exact route taken by these explorers is the subject of considerable academic debate. Of interest to the current study is deSoto's route, which was later followed by Pardo. Two of the most frequently cited reconstruction of deSoto's route put the explorer either north (Hudson et al. 1984) or south (Swanton 1985) of the study tract although Hudson et al.'s (1984:73-75) proposed route brings deSoto much closer to the study area, along the French Broad River and present-day I-40, than does Swanton's. Ward and Davis (1999:264) note that much of this work is speculative and that even if mid-16th Century artifacts are recovered from undisputed archaeological contexts, these may not represent direct Spanish contact but may have instead reached that provenience through trade or inheritance. For our purposes then, the important questions regarding the Contact Period in the Appalachian Summit are not where and when did first European contact take place, but

rather, what effect did such contact have on the native populations of the region (Ward and Davis 1999:265). The Appalachian Summit region does not seem to follow the pattern seen elsewhere of massive population declines brought on by European introduced infectious diseases and the Cherokee enjoyed a lengthy period of relative political and cultural stability.

This situation changed abruptly during the Late Qualla phase. First with an alliance with the colony of South Carolina against their hereditary enemy, the Tuscarora, which led to sustained, and often strained, ties with the South Carolinians. By the 1730s, European diseases began to dramatically impact the Cherokee and eventually a smallpox epidemic in 1738-39 killed as much as half of the tribe (Mooney 1975:22-26). With the French and Indian War of 1754, the American Revolution leading to an independent United States of America with whom the Cherokee would have a succession of increasingly punitive treaties, and eventually the Cherokee Removal of 1838, the Cherokee of the Appalachian Summit soon found themselves with but a small part of their ancestral lands, west of Asheville.

Late Qualla ceramics conservatively retain many of the attributes of earlier Qualla types although execution becomes cruder. More dramatic changes are seen in house forms, settlement, and subsistence. Cherokee houses took on a distinctly European look and, from the outside, would probably have been indistinguishable from a Euro-American log cabin. Even here however, tradition remained as excavated examples of Cherokee houses from this period often contain the centrally located, puddle clay hearths found in earlier Cherokee dwellings (Dickens 1978). Settlement continues to become increasingly diffuse such that, at the time of removal, most Cherokee are living in isolated farmsteads. Also by this time, most Cherokee are raising and subsisting on European introduced crops and domesticated animals (Mooney 1975).

SITE HISTORY

Constructed in 1935 with numerous improvements since, the Blue Ridge Parkway is a 469 mile linear reservation linking Shenandoah National Park in Virginia and Great Smoky Mountains National Park in North Carolina. The Blue Ridge Parkway was the first long-distance rural parkway developed by the National Park Service. The parkway represents an adaptation of parkway development strategies originating in suburban commuter routes and metropolitan park systems to a regional scale.

At frequent intervals the parkway boundaries expand to encompass smaller parks, recreation areas, and historic sites, many of which include picnic areas or overnight accommodations (Quin 1997).

Mt. Pisgah's sharply rounded summit, rising to 5,721 feet, is the most dramatic feature of the Asheville area. Early white settlers gave the peak its biblical name, naming the Cherokee *Elseetoss* after the mountain from which Moses first saw the promised land. The state of North Carolina owned the land until 1797, when a tract totaling more than 250,000 acres was sold to David Allison. Over the next century, the land was parceled out but little development took place (Quin 1997).

In 1897, Clingman sold the land to George Washington Vanderbilt. Vanderbilt, the youngest grandson of railway magnate "Commodore" Cornelius Vanderbilt, began acquiring land for his "Pisgah Forest" estate in 1895. The mountainous land was largely devoted to timber production. In 1891 Vanderbilt engaged Pennsylvanian Gifford Pinchot, who had studied forestry in Europe to manage the operations. Vanderbilt, an avid outdoorsman, constructed a hunting lodge on the shoulders of Mount Pisgah in 1898. The "Buck Springs Lodge" had four bedrooms and detached structures housing two suites and a kitchen/dining room complex. To get to the lodge, he had a rough wagon road constructed to Buck Springs Gap, which was the genesis of the Shut-In Trail, which today runs 16 miles from Asheville to Mount Pisgah. The land became the nucleus of the Pisgah National Forest, the first national forest in North Carolina (Quin 1997).

George Farrington Weston and his wife, Mary Wheeler Weston, established the Pisgah National Forest Inn on a site adjacent to the present Pisgah Inn in 1919. Weston had been Vanderbilt's farm superintendent from 1895 to 1903. After the US Forest Service purchased the Mount Pisgah area from the Vanderbilt estate, Weston obtained a 30-year lease and a concession permit for the lodgings. The inn was located on a shelf of Mount Pisgah at an elevation of 5120 feet, which afforded a splendid view down into the Davidson River valley. Although the Kirschners renovated the inn, when the Blue Ridge Parkway acquired the land from the Forest Service, they determined to have the structure substantially rehabilitated or replaced at a cost of no less than \$250,000 (Quin 1997).

As parkway officials began planning for the extension of the road through the Mount Pisgah area, they did not

originally contemplate acquiring land for a recreation area. Instead, they recommended that the Forest Service continue development and administration. They wanted to participate in collaborative planning for the area, but believed their role should be limited to providing access roads. The parkway contacted the Forest Service in 1946 concerning possible developments at Mount Pisgah, even though the parkway would not be constructed through the area for many years. Superintendent Weems suggested a coffee shop and a gas station, with picnicking and camping north of the road. A parking area would be provided for those wishing to climb the mountain, which would remain in Forest Service ownership. A 1952 preliminary development plan called for the gas station, a picnic area, improved camping facilities, and replacement of the Pisgah Inn with a modern building. One of seven projected parkway visitor information centers would be located in the development. The theme, "Appalachian Forests," would focus on forest types, plant succession, and the establishment of the first national forest facility. The parkway removed the visitor center from the plans but retained the parking overlook at which it would have been located, since it offered a fine view of Mount Pisgah and could be used later if a decision was reached to build the facility. This parking area was constructed and is now the "no-name" overlook at Mount Pisgah (Quin 1997).

In 1960, the state of North Carolina acquired the 471-acre Vanderbilt Buck Springs tract for \$143,488. The parkway informed the state that it had no use for the buildings. Parkway Assistant Superintendent Howard Stricklin protested that the sixty-year-old building would be difficult to maintain. He added that the park naturalist was opposed to using the lodge as a visitor center, as he wanted all the visitor centers located along the parkway motor road, believing visitors would not stop in if they had to travel any distance from the main road. The parkway subsequently constructed a spur road up to a point near the ruins; the parking area provided access to trailheads for Mount Pisgah and the lodge site (Quin 1997).

In 1962 the Kirschners associated themselves with backers in Waynesville and Hazelwood to form Pisgah Inn, Inc. The National Park Service granted a concession contract allowing the old inn to continue in operation while new facilities were being constructed. Once the first new building with 26 units was completed in 1965, the Park Service stipulated the old inn could only be used for employee housing or overflow from the new units. The Pisgah service station and camp store opened on July 18,

1965. The main buildings for the inn, containing a dining room, grill, gift shop, and four lodging units, opened on May 1, 1966. It then had room for about 100 people, but Forest Service officials thought it could be enlarged to accommodate 250. The small registration kiosk located at the campground was constructed by the CCC camp at Oconaluftee in Great Smoky Mountains National Park in the 1930s, and was relocated from that park to Mount Pisgah in 1968 (Quin 1997).

By 1986, the condition of the old Pisgah Inn had so deteriorated that the National Park Service was forced to address its fate. In September, as part of the environmental review mandated by the National Historic Preservation Act, the parkway proposed five alternative courses of action. The fifth and least expensive option called for the demolition of the structure. One cabin, Building No. 566, from the original Pisgah Inn complex remains (HABS Map 1987).

IV. RESEARCH DESIGN

The field director and a research assistant conducted the archaeological fieldwork for the study area, which consists of approximately 2.1 miles of existing easement where existing water and sewer lines are to be removed and replaced. Additionally, the project requires an additional 2750 linear feet for the construction of new water lines. It is this area, since it involves new ground disturbance, that required archaeological survey. These corridors were subjected a pedestrian walkover with an eye to assessing archaeological potential, visual inspection for artifacts or features, and excavation of shovel test pits in promising areas. These tests were spaced at 20-meter intervals and were 30 cm in diameter. All excavations were dug until culturally sterile subsoil was found. Tests were screened through one-quarter inch hardware cloth.

Shovel tests producing cultural materials were given discrete numbers and their locations were noted on project field maps. For the purposes of this study, an archaeological site as a concentration of artifacts, ecofacts, or modifications to the landscape that are associated with past human activity and retain their context. An archaeological site must be at least 50 years old, and is characterized by any of the following criteria:

- An area yielding three or more artifacts from the same broad cultural period (i.e., historic or prehistoric) on the surface within a 30-m radius;
- A shovel test that produces two or more artifacts from the same broad cultural period, as long as the artifacts cannot be fitted together (i.e., they are not two pieces of the same artifact);
- A shovel test that produces one artifact and at least one surface artifact from the same broad cultural period within a 20-m radius from that shovel test;
- An area with visible or historically recorded cultural features (e.g., shell midden, cemetery, rockshelter, chimney fall, brick walls, piers, earthwork, etc.).

This document also defines an isolated find as no more than two historic or prehistoric artifacts found within a 30-meter radius. According to these definitions, no

archaeological sites or isolated finds were discovered during the current survey.

NATIONAL REGISTER OF HISTORIC PLACES EVALUATION

Once located and analyzed, sites were evaluated for their eligibility to the National Register of Historic Places. The process by which properties are added to the National Register is provided in 36 CFR Part 60, *National Register of Historic Places*. Of critical importance to evaluating the eligibility of a given property to be listed on the National Register is Part 60.4, which provides the National Register criteria for evaluation. These criteria state that significance is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield, information important in prehistory or history.

CURATION

As no artifacts were recovered during the course of this project, no further discussion of laboratory methods or artifact and curation is included in this report. However, once the project is complete, all project notes will be prepared for curation. Field records will then be relocated from the New South Associates laboratory in Stone Mountain to the Office of State Archaeology's facility in Raleigh for permanent curation.

The Raleigh facility has adopted the standards set forth by the Secretary of the Interior in 36CFR79 (Curation of Federally Owned and Administered Archaeological Collections). These standards require that: 1) curation facilities have adequate space, facilities, and professional personnel; 2) archaeological specimens are maintained so that their information values are not lost through deterioration, and records are maintained to a professional archival standard; 3) curated collections are available to qualified researchers within a reasonable time of having been requested; and 4) collections are available for interpretive purposes, subject to reasonable security precautions.

V. RESULTS AND RECOMMENDATIONS

The area of potential impact for the rehabilitation of water and sewer utilities at Mt. Pisgah campground on the Blue Ridge Parkway have been proposed and the impact of each on Historical Resources or Archaeological Sites was assessed. The affected environment for these actions include the Blue Ridge Parkway and the Mt. Pisgah Campground itself, the historic cabin remaining from the Old Pisgah Inn complex, and as yet undiscovered archaeological deposits that might exist on the site. The impact of the project as proposed on each of these resources will be discussed in turn.

The potential historical significance of the Blue Ridge Parkway and Mt. Pisgah Campground would be unaffected by the project as proposed. Both the Blue Ridge Parkway and the Mt. Pisgah Campground have been significantly altered and updated over the years. The historic significance of the parkway lies in its unique origins, design, location, and patterns of use over time rather than intact historic fabric.

The potential historical significance of the historic cabin remaining from the Old Pisgah Inn complex will also be unaffected by either of the proposed alternatives as neither of them propose work near the cabin.

It is unlikely that either of the proposed actions will have an impact on undiscovered archaeological deposits at the Mt. Pisgah Campground. Alternative I proposes construction of 2750-feet of new water and sewer line. The rest of the improvements involve removal and replacement or abandonment in-place of existing lines. Any archaeological deposit that may be present within existing water/sewer line easements would have been disturbed by the original construction. The 2750-feet of new construction proposed in Alternative I was subjected to intensive archaeological survey during the current study. A large portion of the proposed new pipeline corridor was on steep and eroded terrain or had already been disturbed by other construction and maintenance activities. Shovel testing of undisturbed, level areas yielded no subsurface artifacts or features.

The survey found no new or previously recorded archaeological sites located within the project area. No further archaeological study in preparation for the

proposed utility line improvements at the Mt. Pisgah Campground is recommended.

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APPENDIX D

Section 106 Assessment of Effects Form

ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES (Section 106)

A. DESCRIPTION OF UNDERTAKING

1. **Park:** Blue Ridge Parkway **District:** Pisgah **Section:** 2-T & 2-U **Milepost:** 407.6-408.7

2. **Work/Project Description:**

a. Project Title and Project ID Number: Rehabilitation of Mt. Pisgah Utilities Environmental Assessment (PRA BLRI 538) (PIN 442)

Funding Source: Line-Item **PMIS Number:** 28393

b. Describe project and area of potential effects (as defined in 36 CFR Part 800.2(c)); explain why work/project is needed.

The purpose of this proposed action is to complete the replacement of the water and sewer lines in the Mt. Pisgah developed area. The Mt. Pisgah developed area serves 250,000 visitors annually and consists of a lodge, restaurant, camp store, gas station, gift shop, employee dormitories, campground, picnic area, sewage treatment plant and hiking trails.

The proposed project will rehabilitate the corroded and severely leaking water distribution system at Mt. Pisgah, including 8,000 lineal feet of water line, two pump houses, and water level controls. Also proposed is to rehabilitate the deteriorated, leaking sewage collection system consisting of 40 concrete/brick manholes and 7200 lineal feet of brittle plastic pipe. This work will include replacement of the picnic area sewer line, as well as replacing the manholes upstream of the junction with the sewer treatment plant. Less than 10% of the water line and sewer line rehab/replacement will involve new excavation. Most of the water line and sewer line rehab/replacement will occur in the existing trenches.

This project also includes construction of a 100-foot long bridge over a unique, high elevation mountain bog containing rare and endangered vegetation. The purpose of the bridge is to carry utility lines across the bog (suspended under the new bridge) and to provide pedestrians an unobtrusive view of the bog and low impact crossing of this sensitive area. In conjunction with constructing the bridge and installing the new water/sewer utilities at the bog the project proposes demolishing and removing the existing sewer, water and other structures currently in the bog.

The project will also include construction of an accessible trail at each end of the footbridge to prevent damage to vegetation caused from pedestrian traffic. Demolition of several campsites will be undertaken to restore some natural areas in the Mt. Pisgah Campground and to help control sedimentation and siltation from surface water runoff due to the numerous social trails created by visitor.

3. **Has the area of potential effects been surveyed to identify cultural resources?**

☐ No

☒ Yes Source or Reference— "Blue Ridge Parkway Historic Resource Study" (Draft) by Ian Firth, Univ. of Ga., 1992

☐ Check here if no known cultural resources will be affected. (If area has been disturbed in the past, please explain or attach additional sheets to describe nature, extent, and intensity of disturbance.)

4. **Affected Resource(s):**

Name and number(s): Buck Spring Springhouse – B 556 Location: Milepost 407.7 NR status: Considered a Contributing Resource in the Parkway Historic District

Name and number(s): Mt. Pisgah Cultural Landscape Location: Milepost 407-409 NR status: Under consideration by SERO CLI researchers

(REPEAT FOR EACH AFFECTED RESOURCE)

5. **The proposed action will:** (Check as many as apply.)

☐ Destroy, remove, or alter features/elements from a historic structure

☐ Replace historic features/elements in kind

☐ Add nonhistoric features/elements to a historic structure

☒ Alter or remove features/elements of a historic setting or environment (inc. terrain)

- ☒ Add nonhistoric features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape
- ☒ Disturb, destroy, or make archeological resources inaccessible, or alter terrain
- ☒ Potentially affect presently unidentified cultural resources
- ☐ Begin or contribute to deterioration of historic fabric, terrain, setting, landscape elements, or archeological or ethnographic resources
- ☐ Involve a real property transaction (exchange, sale, or lease of land or structures)
- ☐ Other (please specify)

6. **Measures to prevent or minimize loss or impairment of historic/prehistoric fabric, setting, integrity, or data:**

The extensive improvements proposed here to the water lines and sewer lines at the Mt. Pisgah facilities are obviously necessary and desirable. The challenge will be to complete the required project work with the least possible effects on cultural resources, including archeological resources, cultural landscapes, and structures or features associated with the Parkway itself. All required cultural resource surveys, assessments and evaluations of the potential effects of the project actions will have to be completed prior to the initiation of project work. The Parkway will defer to SERO/SEAC cultural resource expert authorities to guide us with regards to the required compliance actions.

7. **Supporting Study Data:** (attach if feasible; if action is in a plan, give name and project or page number):

8. **Attachments:** ☐ Maps ☐ Archeological Clearance, if applicable ☒ Maps ☒ Specifications ☐ Photographs ☐ Site plan ☐ List of Materials ☐ Samples (SEE SEPARATE ABODE FILE SENT WITH THIS ASSESSMENT FORM) ☐ Other

Prepared by /signed/
 Suzette Molling, Environmental Protection Specialist (828) 271-4779 ext. 219

B. PARK 106 COORDINATOR REVIEW AND RECOMMENDATIONS (completed by the park Section 106 coordinator)

1. **Review by additional specialists:**

2. **Assessment of Effect:**

☐ No Effect ☒ No Adverse Effect ☐ Adverse Effect

3. **Compliance requirements:** (The following is the park's assessment of Section 106 process needs and requirements for this undertaking.):

☐ A. STANDARD 36 CFR PART 800 CONSULTATION

Consultation under 36 CFR Part 800 has been carried out subsequent to preparation of this XXX form.

☒ B. PROGRAMMATIC EXCLUSION

The above action meets all conditions for a programmatic exclusion under Stipulation IV of the 1995 Servicewide PA for Section 106 compliance.

APPLICABLE EXCLUSION(s): Exclusion IV.B 8 [specify 1-13] or IV.C addition to the list of exclusions.]

☐ C. PLAN-RELATED UNDERTAKING

Consultation and review of the proposed undertaking were completed in the context of a plan review process, in accordance with the 1995 Servicewide PA and 36 CFR Part 800.

☐ D. UNDERTAKING RELATED TO ANOTHER AGREEMENT

The proposed undertaking is covered for Section 106 purposes under another document such as a statewide agreement established in accord with 36 CFR Part 800.7 or counterpart regulations.

☐ E. STIPULATIONS/CONDITIONS

Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to mitigate potential adverse effects.

The extensive improvements proposed here to the water lines and sewer lines at the Mt. Pisgah facilities are obviously necessary and desirable. The challenge will be to complete the required project work with the least possible effects on cultural resources, including archeological resources, cultural landscapes, and structures or features associated with the Parkway itself. All required cultural resource surveys, assessments and evaluations of the potential effects of the project actions will have to be completed prior to the initiation of project work. The Parkway will defer to SERO/SEAC cultural resource expert authorities to guide us with regards to the required compliance actions.

Allen R. Hess 07/09/2003

Recommended by _____/signed/_____ Date 09/04/03

Allen R. Hess, Cultural Resource Management Specialist

C. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1995 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and DO-28. Below or attached is my best professional advice about this project and about issues relevant to the Section 106 process, including identification and evaluation of historic properties, assessment of the effects of this undertaking on historic properties, further review by the SHPO and Advisory Council, and mitigation and consultation on any potential adverse effects.

[X] ARCHEOLOGIST

Name, Title, Comments: Dr. Bennie Keel, Regional Archeologist, SERO, NPS, July 10, 2003 – “Archeological investigations required.”

Name: J. W. Joseph, PhD, RPA – Principal Investigator, New South Associates, Stone Mountain, Georgia
Matthew J. Edwards, RPA – Archaeologist and Author, New South Associates, Stone Mountain, Georgia

Title: As above

Comments: From “Phase I Archaeological Survey for Utility Line Improvements at Mt. Pisgah Campground, Blue Ridge Parkway, Haywood County, North Carolina” – New South Associates Technical Report # 1117 - August 27, 2003 – Draft Report

New South Associates conducted a Phase I archaeological survey of the proposed utility line improvements at Mt. Pisgah Campground on July 28, 2003. The project area consists of approximately 2.1 miles of exiting easement where existing water and sewer lines are to be removed and replaced. Additionally, the project may require an additional 2,750 linear feet for the construction of new water lines. It is this area, since it involves new ground disturbance, that required archaeological survey. The study entailed four basic tasks: background research, fieldwork, analysis of data, and the preparation of this report. No new or existing archaeological sites were found or recorded during the course of the survey and no further study of the project area is recommended.

It is unlikely that either of the proposed actions will have an impact on undiscovered archaeological deposits at the Mt. Pisgah Campground. Alternative I proposes construction of 2750-feet of new water and sewer line. The rest of the improvements involve removal and replacement or abandonment in-place of existing lines. Any archaeological deposit that may be present within existing water/sewer line easements would have been disturbed by the original construction. The 2750-feet of new construction proposed in Alternative I was subjected to intensive archaeological survey during the current study. A large portion of the proposed new pipeline corridor was on steep and eroded terrain or had already been disturbed by other construction and maintenance activities. Shovel testing of undisturbed, level areas yielded no subsurface artifacts or features.

The survey found no new or previously recorded archaeological sites located within the project area. No further archaeological study in preparation for the proposed utility line improvements at the Mt. Pisgah Campground is recommended

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Signature: /s/ J. W. Joseph, PhD, RPA – Principal Investigator – New South Associates Date: August 27, 2003

C. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1995 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and DO-28. Below or attached is my best professional advice about this project and about issues relevant to the Section 106 process, including identification and evaluation of historic properties, assessment of the effects of this undertaking on historic properties, further review by the SHPO and Advisory Council, and mitigation and consultation on any potential adverse effects.

[X] HISTORICAL LANDSCAPE ARCHITECT

Name: Tracy Stakely

Title: Lead Landscape Architect, CRS, SERO, NPS

Comments: **ALL BY EMAIL**

- Dated July 10, 2003

Obviously, this project is extremely important for the protection of visitor health and safety and natural resource concerns. However, project elements like removal of campground sites and water hydrants, the addition of a new steel bridge will create impacts on the cultural landscape. Until a complete assessment of the Mt. Pisgah cultural landscape is complete, it cannot be determined if these impacts will be adverse. The cultural landscape inventory (CLI) that is currently underway for this site will provide the needed information to make a more informed determination of impact.

Assessment of Effect: **TO BE DETERMINED**

Recommendations for conditions or stipulations:

Given the importance of this project, it should proceed as described. Extreme care should be taken to avoid the unnecessary alteration or loss of landscape features outside the immediate construction area and are not included in the scope of this project, including built features and extant vegetation. The existing conditions for entire site should be well-documented prior to the start of the project. A future determination of adverse impact to the cultural landscape may warrant mitigation actions to rehabilitate or replace landscape features that are removed or altered during this project.

- Dated July 15, 2003

AI

I reviewed the EA for this project and submitted the following comments to Ali Miri (who is coordinating our comments). They also apply to the 106 documentation:

There will be impacts to cultural (historic) resources in this area.

The CLI is currently underway for Mt. Pisgah that will document the cultural landscape history for the developed area, including the campground. Until this is complete, we don't have a clear picture of the significance of certain site features and their removal may be detrimental to the landscape character. Preliminary information shows the campground features were added/changed during different historic periods, and as such may be significant to the cultural landscape. Changes that will undoubtedly effect the cultural landscape include removal of campsites/tables/pads/etc. (loss of historic features), removal of 7 existing water fountains and placement with new 8 new hydrants (the extant ones may or may not be character-defining), addition of the new bridge (changes visual character of site, and may alter circulation?), and paving the access road to the sewage treatment plant (was it historically paved, or is gravel the historic character?)

However, the project obviously needs to proceed due to its importance. At this point, I do not think any of the above actions warrant stopping the project. We need acknowledge that the historic resources will be impacted. We should not make too many changes to the cultural landscape until it is more completely documented and it is the historical value of individual features is clear.

.....

- Dated July 24, 2003

Al

Thanks for faxing the email with our original response to the above 106 (dated 7/10/03). It seems there was a miscommunication between our office and the park in this reply. Part of my original comments were inadvertently not included. My original response in its entirety is included in the attached copy of the xxx form.

Note that I nor the SERO cultural resource staff said that the project should be halted. We only indicated that care should be taken to document the existing conditions prior to removal and or alterations of features pending any future determination of historic significance.

However, it may be a moot point. I received the 75% drafts of the CLI today for Pisgah area (including campground, picnic area, overlook, inn, and district). Based on these preliminary documents, it appears that the majority of resources affected by this work (in the campground) are not yet considered historic, and therefore not eligible for National Register listing on their own. The campground and its features date to circa 1968, making them less than 50 years old. There was a historic campground in the area prior to the 1960s improvements, but it is unclear from the documentation if any of this remains and/or would be significant in its own right. However, the existing campground does contribute to the larger Pisgah district, and if its integrity remains, may be considered historic in the next few years (possibly under Mission 66?) as it approaches the 50 year mark. In any case, I reiterate my original recommendations to proceed with the project, making sure to adequately document all landscape features prior to any site work.

Check if project does not involve ground disturbance []

SEE DISCUSSIONS ABOVE **

Assessment of Effect: _____No Effect _____ No Adverse Effect _____Adverse Effect _____Programmatic Exclusion

Recommendations for conditions or stipulations:

As above

Signature: By emails

Date: July 10, 15, 24, 2003

C. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1995 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and DO-28. Below or attached is my best professional advice about this project and about issues relevant to the Section 106 process, including identification and evaluation of historic properties, assessment of the effects of this undertaking on historic properties, further review by the SHPO and Advisory Council, and mitigation and consultation on any potential adverse effects.

[X] CURATOR

Name: Allen Bohnert

Title: Chief, Museum Services, SERO, NPS

Comments: No further comment from Museum Services

"All artifacts and archival records collected during the site survey are the property of the National Park Service, Blue Ridge Parkway. Before any objects, field notes and inventories are to leave the park, a Receipt for Property or Outgoing Loan form must be completed and signed by the archeologist and park staff on site, and the form sent to the Park Curator for the permanent file. After completion of the survey, all objects, copies of field notes, inventories, maps, final reports, permits and/or contracts will be sent to the Park Curator. The items will be accessioned into the parks museum collection."

Check if project does not involve ground disturbance []

Assessment of Effect: ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect ☐ Programmatic Exclusion

Recommendations for conditions or stipulations:

Signature: By email

Date: 07/09/2003

C. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1995 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and DO-28. Below or attached is my best professional advice about this project and about issues relevant to the Section 106 process, including identification and evaluation of historic properties, assessment of the effects of this undertaking on historic properties, further review by the SHPO and Advisory Council, and mitigation and consultation on any potential adverse effects.

[X]ETHNOGRAPHER

Name: Dr. Tony Paredes

Title: Chief, Ethnography and Indian Affairs, SERO, NPS

Comments: I would strongly recommend making a determination if any of the historically associated tribes wish to consult on this one. – by email of 07/11/2003

Parkway response: The Parkway has now consulted in-depth with six American Indian tribes who have ancestral affiliations with the general geographic area of the Parkway. It is the consensus of these tribes that they want to be notified only: (1) if a project site has been determined by archeologists and other cultural resource experts to be of National Register importance; or (2) if human remains and/or related funerary objects are discovered on the project site. Neither of these conditions pertain to PIN 442 and there is no basis for further tribal consultations. – Allen R. Hess 09/04/03

Check if project does not involve ground disturbance []

Assessment of Effect: ____No Effect X No Adverse Effect ____Adverse Effect ____Programmatic Exclusion
Recommendations for conditions or stipulations:

Signature: By email

Date: 07/11/2003

D. SUPERINTENDENT'S APPROVAL

The proposed work conforms to NPS Management Policies and DO-28 and I approve the recommendations, stipulations, or conditions noted in Section B of this form.

/signed/
Daniel W. Brown, Superintendent

09/05/03
Date

APPENDIX E

List of Agencies, Individuals, and Organizations to Whom Copies of This EA Were Sent

US Army Corp of Engineers
Asheville Field Office
Asheville Federal Center
151 Patton Avenue
Asheville, North Carolina 28801

Mr. Allen Ratzlaff
Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

Mr. John Ramey
Forest Supervisor
North Carolina National Forest Service
160-A Zillicoa Street
Asheville, North Carolina 28801-1082

Mr. Doug Smith
US Geological Survey
3916 Sunset Ridge Road
Raleigh, North Carolina 27616

Mr. Rob Young
Assistant Professor
Western Carolina University
Cullowhee, North Carolina 28723

Mr. Bob Gale, Ecologist
Western North Carolina Alliance
70 Woodfin Place, Suite 326
Asheville, North Carolina 28801

Dr. Houck Medford, Executive Director
Blue Ridge Parkway Foundation
Post Office Box 10427 - Salem Station
Winston-Salem, North Carolina 27108

Mr. Ken Fitch
Friends for Parks and Public Lands
2565 Broadway PMB 373
New York, NY 10025-5657

Dr. Dan Pittillo, Professor
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Western Carolina University
Cullowhee, North Carolina 28723

Ms. Chrys Baggett
Environmental Policy Act Coord.
State Clearinghouse
146 West Jones Street
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Environmental Review Coordinator
NC Dept. of Cultural Resources
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Senior Field Officer, Western Region
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59 Woodfin Place
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North Carolina Natural Heritage Program
Post Office Box 27687
Raleigh, North Carolina 27699-1615

Regional Supervisor
Division of Archives & History
North Carolina Department of Cultural Resources
1 Village Lane, Suite 3
Asheville, North Carolina 28803

Mountain Region Coordinator
Habitat Conservation Program
N. C. Wildlife Resources Commission
1721 Mail Service Center
Raleigh, North Carolina 27699-1721

NC Wildlife Resource Commission
37 New Cross North
Asheville, North Carolina 28805-9213

Plant Conservation Program
N. C. Department of Agriculture
Post Office Box 27647
Raleigh, North Carolina 27611-7647